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Alabama
Health Boa

TRANSACTIONS

OF

The Medical Association

OF THE

STATE OF ALABAMA.

(THE STATE BOARD OF HEALTH)

ORGANIZED 1847—MEETING OF 1904.

MOBILE, APRIL 19-22.

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MONTGOMERY, ALA
1904.

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THE MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA.

PROGRAMME OF THE ANNUAL SESSION.

APRIL 19-22 1904.

TEMPERANCE HALL,

MOBILE, ALABAMA.

COMMITTEE OF ARRANGEMENTS.

E. D. BONDURANT, M. D., Chairman.

H. T. INGE, M. D. — C. A. MOHR, M. D.

V. P. GAINES, M. D. — P. J. M. ACKER, M. D.

FIRST DAY—TUESDAY, APRIL 19.

MORNING SESSION.

1. Call to order at 12 M. by the President—MATTHEW B. CAMERON, M. D., Sumterville.
2. Prayer—REV. MATTHEW BREWSTER, Mobile.
3. Address of Welcome—E. D. BONDURANT, M. D., President Mobile County Medical Society.
4. Address of Welcome—HON. CHARLES E. MCLEAN, Mayor of Mobile.
5. Annual Message of the President—MATTHEW B. CAMERON, M. D,. Sumterville.
6. Report of Senior Vice-President—ANDREW MCA. STOVALL, M. D., Jasper.
7. Report of Junior Vice-President—JOHN R. G. HOWELL, M. D., Dothan.
8. Report of the Secretary—LEWIS C. MORRIS, M. D., Birmingham.
9. Report of the Treasurer—HENRY G. PERRY, M. D., Greensboro.
10. Report of the Publishing Committee.
11. Reports of Special Committees.
12. Miscellaneous Business.

Adjournment.

Followed by Boat Excursion on Mobile Bay, with lunch on board.

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THE MEDICAL ASSOCIATION

OF

THE STATE OF ALABAMA.

THE MINUTES OF THE MEETING OF 1904.

PROCEEDINGS OF THE FIRST DAY.

MOBILE, Tuesday, April 19, 1904.

The Association was called to order at 12 M., in Temperance Hall by the President, Dr. M. B. Cameron, of Sumterville.

Prayer was offered by Rev. Matthew Brewster, of Mobile.

Dr. E. D. Bondurant, President of The Medical Society of Mobile county, then delivered the following address of welcome:

Mr. President, and Gentlemen of The Medical Association of the State of Alabama:

The Medical Society of Mobile County sends me to meet you at your coming, and to give you a welcome to our homes and hospitalities, all the more heartfelt in that we know your worth so well, all the more cordial because twelve months delayed; such welcome as Southern men bred in Southern climes are wont to bring to guests who honor them.

You, as soldiers upon a field of battle, waging ceaseless combat against the forces of disease and death, must yet pause from time to time, and joining with your weary fellow-comrades, take that rest which those who have fought a good fight and kept the faith can justly claim their own. And fortunate we when fate decrees this annual truce in such time and way as leads the knightly medical warriors from the length and breadth of our fair State to lay aside their armor, sheathe their swords, and gather here with us beneath the spreading oaks of old Mobile, where our soft sea breeze may cool their heated brows, where weariness and pain may cease and thirst be assuaged by our bubbling springs and fountains, where with us they may break the great white seal and quaff that

draught which we all find most refreshing when extra dry. Fortunate, indeed, we deem ourselves that such noble guests now honor us.

But in times like this not all of rest shall be your lot. The soldier does not discharge his whole duty by himself engaging in deadly strife. As opportunity offers, it is none the less his meed of allotted labor to instruct others in the arts of war; to point out the snares and pitfalls set to catch the feet of the unwary; to guide and direct the young fighting men, but newly gone forth upon their warlike mission. So you, in your recreation times, not only take that relaxation and refreshment which all so sorely need, but you, of your store of strength, give to those who have not. More than this, you owe a duty of aid and encouragement to your fellow soldiers, the duty of reporting upon the progress of the fight in that portion of the field in which your especial activities lie, and the further duty of sitting in council with the elders and determining the future course and conduct of our Association, and of selecting the war captains and leaders for the coming year. These duties, however, bring to the free-born, political-minded, American citizen also pleasure, and are fittingly discharged at your annual reunion for rest and recreation.

The blessings of this life are, as you all know, somewhat unequal, and thus it happens that not all of you can live in Mobile; the call of duty detaining you in the rolling inland country, upon the boundless black belt prairies, or among the bleak and inaccessible hills of North Alabama. Such outpost duty falls to the lot of many. To those I would say, bear your misfortune with fortitude, and discharge your duties like the men you are, but when your vacation time comes enjoy to the uttermost and in the fullest measure the days of brief respite kind Providence accords you here with us, who have a never-ending rest time and who can, if nothing else, at least teach you how to enjoy life. Glad, indeed, are we that you have come among us. Stay with us as long as your duties and your wives and sweethearts will let you, and when you turn your faces sadly homeward, bear with you as recompense a pleasant memory of the hours passed in the balmy, spice-laden shades of the only Mobile, as we on our part shall ever carry enshrined in our hearts an echo of the joy bells set ringing by your coming.

And let others tell, as needs they must, of progress great and of the tireless energy which, in the years which have passed since last we met, have measurably transformed this dear old village into some semblance of a modern town. Proud though we are of our

material prosperity, and of our rapid rise to a commercial eminence most fit for Alabama's fairest city; proud though we are of our fortunate site as the eastern terminus of the Panama canal; proud though we are to see our beautiful modern homes and azalea flecked lawns replacing the dreary pastures and the groves of the murmuring pine which, until now, have close environed us; prouder still are we of old Mobile, set like a gem upon this golden Southland seashore; of the old Mobile with her two centuries of history, and of romance snugly told in song and story, the undying glory of whose past is but a promise of a brighter future; prouder still of the old Mobile traditions of Southern chivalry, Southern courtesy, and of open-hearted, unquestioning hospitality to the friends and to the strangers she welcomes within her gates. Traditions like these are the heritage of her sons, and in these, as in the strength of her brave men, as in the radiant loveliness of her gentle, sweet women, the old Mobile stands supreme and acknowledges no competitor.

So, I come to you from old Mobile. Though somewhat changed in outward mien, the same true heart beats strong beneath; she has the same true handclasp for a friend. Let others welcome you to the new life of the new Mobile. Your oldest friends from your oldest county society, bid me lay at your feet a good, old-fashioned, hearty, unregenerate, unchanging, old-time Mobile welcome. [Applause.]

Hon. Charles E. McLean, Mayor of the city of Mobile, then welcomed the Association in the following cordial terms:

Mr. President, and Members of The Medical Association of Alabama:

Gentlemen: Of all organizations, I am especially glad to be able to welcome yours to our city. The very marked pleasure that this affords is due, in a measure, to the belief that the concentration of such a brilliant array of medical talent in our midst is calculated to frighten off—if not for good, at least for a while—the insidious vultures of disease that prey upon us. It is not my intention, however, to give you the impression that sickness and disease holds high revel here. On the contrary, our city is particularly healthful and is growing more so every day. In fact, in the course of a few years we hope to be able to get along without doctors at all. [Laughter.] As I have said, Mobile is a healthy city, and the decrease in sickness and disease is very apparent. This is due, in a great extent, to the civic improvements that have been made and are being made. We now have a first-class water works and sewerage system; sanitary laws are being enforced; and the individual

dwellings of our citizens, together with the general conditions of the city, from the standpoint of sanitation, are nearing perfection. You will agree with me that the natural and artificial advantages we possess, the gradual improvement of our streets, and the enforcement of cleanly conditions will put Mobile foremost as a wholesome and healthy city. [Applause.]

We appreciate the great debt that is owed by mankind to the ministrations of your profession; and I am glad, indeed to have you with us; and trust that in selecting a location for future conventions five years will not have elapsed before we have you amongst us again. [Applause.]

President Cameron then read the following message:

THE MESSAGE OF THE PRESIDENT.

MATTHEW BUNYAN CAMERON, M. D., SUMPTERVILLE, ALA.

Grand Senior Counsellor of The Medical Association of Alabama.

Gentlemen of The Medical Association of the State of Alabama:

Once again I greet you in annual convention to perform your accustomed official and statutory duties as members of this organization, and to contribute your gleanings from the fields of science and the broad domain of medical research. I congratulate you upon the pleasure of convening in this quaint and beautiful city, so generous in hospitality and so replete with historic memories. A city whose opening bud of promise and development will soon be a full blown flower of activity and progress by its commercial introduction to a new world, and "if coming events cast their shadows before," we can only hope that all the brightest treasures of the Far East may be laid in her lap, after the completion of the Isthmian canal; and that her citizens may appropriate the opportunities to her prosperity, and the entire State's advancement.

We must all realize that additional grave responsibilities, as guardian of the State's public health, will be thrown upon our Association upon the completion of the Panama canal. The fatal epidemics, and the severe contagious diseases of Japan, China, and all the Eastern islands will continually jeopardize our coast cities through commercial channels. The health officials of this Association are the "Watchmen on the Tower," to whom the citizens of the State will anxiously look for pro-

tection, and if I be permitted to forecast the future by the experiences of the past, it will not be in vain. The invasion of the State by every epidemic for the past thirty years, has been met and valiantly and successfully fought by our health officials under adverse conditions, and with a legal machinery that is a reflection upon an intelligent law-making power.

We have ample laws to protect property and capital, some of them restrictive upon human liberty; we have laws to prevent the destruction of the beasts of the forest, and the birds of the fields; we have laws to estop the infection of our orchards and vineyards; we have laws to guard our growing crops —but the legal authority that the health officers of our State and counties have to prevent the spread of small-pox, scarlet fever, and diphtheria is very limited and inefficient. Repeated efforts have been made to induce the Legislature to pass general laws, applicable to every city and county in the State, which would be sufficiently radical to control these epidemics by compulsory vaccination, isolation, disinfection and quarantine, but we have been defeated each time by the cry of encroachment upon individual liberty and personal rights. Very often the men who were the most persistent proclaimers of this opposition to the imaginary sacrifice of human liberty, had recently voted to imprison individuals for boarding moving trains, or circulating boycott literature. These laws were probably good in their aims and achievements, but they involved much more restriction of personal rights and liberty than the scope of any proposed health law has done. "Oh, consistency, thou art a jewel!"

Most of our large cities and the counties in which they are located have succeeded in having passed statutes giving them ample authority to cope with these dangerous menaces to the public health. To accomplish this, the municipal and county authorities have brought an influence to bear upon their representatives in the general assembly that they could not well withstand. We might emulate their line of work by acting in concert, and impress upon the candidates for the Legislature our desires in this respect. Showing them we are actuated by motives for the public good, and have no selfish aims to accomplish, and thus enlist their coöperation and support.

Should our efforts, directed in this way, fail to secure the passage of a general law by the Legislature of 1906, providing the effectual means of controlling these diseases, we should strive to have local county laws passed embodying such measures, and thus gradually, two or three counties at a time, ac-

complish indirectly what it would be impossible to do directly. Local medical laws, with counties at first judiciously selected where the prejudices and antagonism could be easily overcome, would not attract the attention or invite the enmity of anti-medical cranks that a general law would. With several districts protected by laws of this kind, upon the advent of a serious epidemic of small-pox the opportunity would be given to prove to the general public the wisdom and effectiveness of a general law that would be more potent than any argument you could make to a legislative committee.

GREAT AIMS OF THE ASSOCIATION.

Since the reorganization of this Association, its chief aim and labor has been directed toward: First, the protection of the general public; second, the advancement of the medical profession.

The amount of good that has come to every individual citizen of this State through the safeguards thrown around him by this organization is beyond computation. Health, strength, and life are jewels that soar far above the reach of commercial valuation; they are to man's physical existence what Faith, Hope and Salvation are to his spiritual nature. Who can controvert the fact that health has not been brought to the pallid cheek, strength to the tottering frame, and the flickering spark of life arrested under the operation of the ordinances of this Association and the health laws of the State, passed under its direction?

Our public health system, handicapped as it is by reservation of legal authority, is availed of by our towns and cities, and reaches out into the remotest parts of our commonwealth. Under its operation scientific drainage of our cities has been established, thereby promoting health and lengthening life. Polluted water supplies have been investigated, and means for their purification been suggested and adopted to such an extent that none of our cities have in late years experienced a visitation of typhoid or dysenteric epidemics of a serious nature. Menaces to the public health in the country districts have been carefully investigated by county health officers, and wherever the legal authority was sufficient, have been removed or abolished. Wherever, throughout the state, disease of a serious, contagious, or infectious nature has occurred, there you have found our officers—either State, county, or municipal—laboring assidiously for its suppression and eradication; and this, not only without compensation, but often, also, at a sacrifice of their own time and means.

This has been a labor of love, of devotion to duty; with no selfish ends to achieve or sinister motives of heart. This all has been done silently and quietly, without ostentation or public proclamation, and the public has rarely had the courage to commend it. In fact, our health officials have frequently in their efforts to stamp out a small-pox epidemic been accused by the public of inability to diagnose the disease, especially when the means employed ran counter to the wishes of such individuals. It is yet fresh in our memories with what speed and thoroughness our gifted State health officer conquered an epidemic of yellow fever within the borders of our State, without a serious interruption of traffic and travel, and without the arousing of that human panic that nearly always accompanies these visitations. I venture the assertion that the health department of this State, which is evolved and controlled by this Association, has saved to the commerce and business of the State in the past ten years ten times the total cost of the health department to the State since its inception.

ADVANCEMENT AND IMPROVEMENT.

Conjointly with the efforts made to protect and shield the public, this Association has unceasingly labored to elevate the standard required to commence the practice of medicine in this State. No high standard of efficiency can be achieved by any body without learned and trained men as its component parts. Formerly, there was no barrier in this State opposed to the practice of medicine save individual inclination, and often the precious jewel of a human life was entrusted into the hands of those who were entirely ignorant of the fundamental principles of health and disease.

Charlatanry, quackery, and many other forms of medical frauds reaped a rich harvest from a public untrained and easily deceived. To remedy this was a herculean task, which demanded the fortitude of a brave heart, and the ingenuity of a broad mind. It is well for us, as an Association to-day, and preeminently so for the people of the State, that the great mover in this missionary crusade embodied, in a high degree, all of these qualities.

From medical ignorance and incompetency we have, step by step, progressed to a higher degree of learning and proficiency. From medical chaos and disintegration we have advanced to that point of order, system, and organization which attracts the attention of the medical world. Formerly, a

learned, thoroughly trained doctor in our midst towered as a genius, and was distinguished by his isolation. Now, they jostle each other on our streets, administer to the medical needs of the mountaineer, and wage a successful war against the malarial mosquito in the lowlands. The ignorant, the immoral, the incompetent, were freely admitted to the halls of our medical schools without hindrance; while now, if the law is not shunned, no student can begin the study of medicine in this State without having a high school education and a character above reproach. The requirements to practice medicine in this State have progressed from an open door to four years of study, a diploma from a recognized medical college, and a final examination before one of our examining boards. This has built up a cultivated and learned body of doctors, whose efforts and scientific attainments are so instrumental in advancing the efficiency of this Association.

The personnel of our organization has been wonderfully elevated in the past twenty years, and the depth of medical research and the scientific attainments displayed by the papers read at our meetings would do honor to any academy. We must not lose sight of the fact that this advancement and progress of the profession has not been of profit alone to themselves; for, to the general public it is a breastwork built against the invasion and encroachment of diseases, a safeguard in the improvement of sanitation, and a blessing in the saving of life. Each decade of doctors has been a great improvement on the preceding one, and from this progress in education and medical learning the stricken invalid has the benefit of the best chances for recovery.

MEDICAL LEGISLATION.

With all these years of unselfish work on our part, not seeking, asking, or endeavoring to obtain any individual profit to ourselves by any measure or law we have advocated; but working unceasingly for better sanitary measures, improved quarantine laws, more authority to exterminate epidemics, and to be let alone in establishing the qualifications to practice medicine in the State, we may well ask the question, why we do not meet with better success in our legislative halls? At the last September session of the Legislature we were again harrassed by the osteopathy bill, which was vigorously pressed by its fair champion, and viciously fought for by her adherents on the floor of the Senate. Why such a visionary cult, such a dream of physiological impossibilities, could amass the strength it

did in our State Senate is a matter for our serious consideration. Fortunately, by the concentrated efforts of the profession all over the State, and the loyal work of many on the battlefield, we were able to fustrate the effort to pass such pernicious legislation. But, we need not feel secure in the victory and consider that it is final. If we float placidly down the stream of indifference, we will in the next four years drift upon some breakers that will wreck our organization. Efforts are being quietly made to build up a sentiment in this State that will be in sympathy with this osteopathy movement, and to make it so strong that it will overwhelm and defeat all opposition.

This was not the only trouble we had on our hands during the recent session of the Legislature. We met defeat in our compulsory vaccination measure; and our bill to reconstruct the health laws of the State met with violent opposition from the same sources that supported the osteopathy bill.

After being reported favorably by the Public Health Committee and placed on its passage, it was referred back to the judiciary committee, where it was a stranger and an alien. It was reported back to the House in such a changed and emasculated condition that it was only the shadow of its former self. There appeared to be a prejudice on the part of some prominent members of the Legislature towards every measure advocated by the doctors.

If we expect to retain our present relations with the people and the State in a statutory way, and aspire to achieving much needed legislation, we must first get rid of our stoical indifference along political lines. We can not afford to pull our professional cloak about us and retire into political seclusion, expecting all to go well with us when we have made no effort to elect men to the General Assembly who are friendly to our cause. The sentiment that a doctor must "hands off" in all political matters is puerile and untenable, and rightly belongs to the countries and age when men were born into office, and not placed there by the voice of the people. We have a right, in the proper way and spirit, to demand of candidates their attitude in regard to the health laws of our State and the policies of this Association, and when we find them to be inimicable, we should use every honorable means at our command to prevent their nomination.

The high-toned, honorable, educated doctor wields an influence in his community that would be potent and almost irresistable when concentrated in one direction. With this effort made by each member of this Association in his community,

carefully, and with discretion, we would soon be viewed in a different light than one of indifference and contempt. We must, as much as possible, separate ourselves from the legislative lobby and go out into the beat meetings and primaries, and demonstrate our strength and influence. The experiences of the past in fighting unfriendly legislation has developed the fact that at such times we are seriously handicapped from the want of funds. We very often have to pay the traveling expenses of doctors from various parts of the State to go to the State capital, and use their influence against pernicious bills.

Then, again, it becomes necessary to print and distribute literature to subvert such efforts; these and various other incidental expenses have often to be borne for quite a while by individual members of this body. It appears to me that it would be well to create an emergency fund of $500 to $750, to be used in this way, and put it at the disposal of the President and Senior Censor.

REVOCATION OF LICENSE.

Co-existent with the power to grant the license to practice medicine, should be that to revoke it. Many men are granted the privilege to practice who afterwards prove themselves totally unfit to possess it. The doctor's life should be pure, abstemious, above reproach, ethical, and free from the suspicion of criminal practices. Whenever it falls to a low level of morals, or to disreputable and criminal professional practices, there should be some means by which the public could be shielded from this abominable conduct. We all know that these medical pirates and bush-whackers exist in some counties of our State. Without conscience or character, intemperate, immoral, they unhesitatingly violate the chastity of our women, and for greed of gain assassinate unborn babes. A law should be enacted by the Legislature, giving our State Board of Censors the right to try, professionally, any such doctor, against whom charges have been preferred, and to revoke his license, if proven guilty. Our Association should endorse the movement, and direct the Senior Censor to importune the Legislature to pass such a law.

COUNTY EXAMINING BOARDS.

We are all proud of the great improvement manifested by the standard of examinations given by the most of our county boards; yet there are a few counties in the State, the boards of which either make no examination at all or if they do, sub-

mit such primary questions as to enable men to pass whose knowledge, both general and medical, falls far below the standard. These deficient county boards weaken the high standard of medical education for which we are so persistently striving, for they furnish the avenues for incompetent men to enter the profession in this State.

How to remedy this defect is a matter for our serious consideration. At first thought it would seem that by abolishing the whole system and vesting such authority only in the State Board would be an effectual remedy. But to do this would require a change in our charter, and also demand an amendment to the laws governing the practice of medicine; besides, there are many good reasons why the county boards should be retained, provided they do good work. As a means to induce the county boards to give a more thorough examination to the applicants to practice medicine, I recommend that an ordinance be passed by this Association requiring the county boards to send the papers in each examination to the Senior Censor, to be reviewed by him, and another member of the State Board; and that the certificate of such applicant, if successful before the county board, shall also be forwarded to be countersigned by them, if they approve of the thoroughness of the examination. If, in their opinion, the examination is not of sufficient standard, or the answers do not justify the rating, they shall refuse to countersign the certificate, and this shall disqualify the applicant. The other member to assist the Senior Censor, in the reviewing, should be the one nearest his official residence.

With this improvement to the admission to the practice of medicine in this State, we would be in line for reciprocal relations with the examining boards of other States. In my opinion, reciprocity of State examining boards is to be earnestly desired, and we should seek to establish such relations with the boards of all the States that will enter into such an agreement. Changes in fortune, health and happiness very often occur to make a change of residence desirable, and when this comes to a doctor past the meridian of life, when all the intricacies of anatomy, physiology, and chemistry are but dim memories, he is not mentally fitted to encounter the serious task of a State examining board, although he may be a competent and learned physician.

The mere fact that a physician who has practiced for years in one State and moving to another, is unable to pass a licensing board, by no means proves that he is an ignoramus. He is often rusty on elementary subjects, and may thus be disqualified

on a purely technical ruling, in this respect what is merely child's play for the recent graduate is a veritable hardship for the older man, and it is unjust that he should be compelled to submit to them. Practically speaking, there is no question as to the desirability of interstate reciprocity of licensure on the broad ground on which it should be based. To accomplish this end must be the coöperative work of the several State medical boards, and I recommend that our State board take some action of this character.

HARBINGER OF SUCCESS.

There is a growing disposition among some of our members to criticise the method of conducting this Association; and their ground of complaint is that it is too much a one man's organization, and too little time is devoted to purely medical matters.

These are the chief functions connected with this Association: Scientific or medical function, which consists in the reading and discussion of papers, which may be participated in by every member alike. These discussions extend through three or four days' meeting, and we think their character, depth and scope will compare favorably with those of similar organizations. Certainly, if they fail to be of a high order, it is the fault of the individual members and not of the organization. Considering the fact that we compose the Health Department of the State, and have duties arising from that to perform at our annual meetings, it would appear that three-fourths of our time should be sufficient to devote to medical and scientific topics. Secondly, we have legislative functions to perform in carrying out the health and quarantine laws of the State, in adopting ordinances for our direction, and in the election of officials of this Association. This legislative body is composed of a Senate, the College of Counsellors, and a House made up of two delegates selected by each county society. This legislative body transacts all the business of the Association, and elects all its officers. No one is allowed to vote in such matters but Counsellors and delegates, but as the Counsellors are the product of the Association, and each member is, or should be, represented by the delegates from his county, all have an equal voice in the transactions of the Association, and, therefore, no grounds for complaint. The wisdom of not permitting all members to vote is made apparent by the fact that it prevents any county society where the Association

holds its annual meetings from dictating its officers or policies. Our organization is broad and democratic to the fullest extent, entirely free from the "*ipse dixit*" of any one, for we make no nominations, but leave every man to vote in accordance with his own desires.

One defect in our legislative body is the fact that the House of Delegates is not equally representative. Two delegates from Jefferson Society, with a membership of one hundred and sixty-five and two delegates from Greene county, with a membership of eight, does not give a fair apportionment of suffrage. I think it would be wise and fair to allow each county society to send one delegate to the Association for every ten members, or majority fraction thereof. This would not at once increase the number of delegates, and it would allow each society the representation in our meetings that its numbers justified; besides, it would be an incentive for each society to build up in membership.

The College of Counsellors constitute the bone and sinew of our Association. They are the principal warriors in all our battles, the advisors in times of doubt and threatened disaster, and the main financial support when funds are needed; consequently they should be men of courage and firmness, with cultivated and trained minds, and possessed of sufficient means to promptly meet the financial obligations of the office. They should be chosen from the ablest and best men of our county societies, and should be as equally distributed by congressional districts, according to membership, as possible. In their selection, three distinct qualifications should be kept in view: Strict fidelity to the Association, time of service in our ranks, and high mental and moral capacity. Certainly a man of surpassing intellectual qualifications should not be elected to this position if he be wanting in all the others; and a physician who is under a cloud, ethical or otherwise, in his county society, is unfit to be so highly honored by this Association.

Our present method of selecting Counsellors by a committee appointed at each annual meeting is crude and hasty, for they have not the time or opportunity to examine as to the fitness of the names proposed for nominations, and it has often resulted in electing men who should never have been advanced to this position.

This could be remedied by the appointment by the President of a standing committee of one from each Congressional district, to make nominations at our annual meetings, to fill the vacancies in the College of Counsellors. The member from each district to confer with the county societies of his district

and make up a list of men most suitable for the place, and from the counties more entitled to the appointment, and to bring this list to the meeting of the committee at the annual meetings of the Association, for the entire committee to make the necessary selections from, and submit them to the Association. I would suggest that the term of office of each member of the committee would be three years, except the first appointment, when three shall be appointed for one year, three for two years and three for three years. After the first year, three be appointed annually for a term of three years. This, after the second year, will give a committee composed of nine members, appointed by three different Presidents, which will effectually efface any suspicion that it is appointed with any special design.

In conclusion, I desire to express to you my profound gratitude for the high responsibilities with which I have been entrusted by selecting me as your President, and I assure you that whatever success attends this meeting is due to your liberal and courteous responses to my requests, and your fidelity to every duty imposed upon you.

The next order of business being the Reports of the Vice-Presidents, Dr. Andrew McA. Stovall, Senior Vice-President, submitted the following report from the Northern Division of the State:

REPORT OF THE SENIOR VICE-PRESIDENT.

ANDREW MCADAMS STOVALL, M. D., JASPER, ALA.

Mr. President, and Gentlemen of The Medical Association of the State of Alabama:

In making this report, I have divided the counties into four classes. (The same as did Dr. Gay in 1901.)

Class I—Includes those counties in which the organization and work are reported as good.

Class II—Includes those counties in which the organization and work are reported as fairly good.

Class III—Includes those counties in which the organization and work are reported as unsatisfactory.

Class IV—Includes the counties in which the methods are loose and irregular, and in which little or no work has been accomplished.

Under Class I, I have placed the following counties, viz: Bibb, 30 members; Calhoun, 28; Coosa, 12; Etowah, 25; Fayette, 12; Franklin, 17; Jefferson, 183; Madison, 28; Talladega, 21; Tallapoosa, 25; Tuscaloosa, 29; in all, eleven counties, with 410 members; 142 who are not members; and 12 illegals. In two of the counties,—Bibb and Franklin,—all of the doctors are members of the County Societies. By proper work and effort, cannot the number of counties in which all of the doctors are members of their respective County Societies be greatly increased by the next meeting? In several of the counties only from one to three are not members, and by proper effort a majority of these will become members; 86 of the 142 non-members are in Jefferson county, and that Society is rapidly increasing its membership.

NUMBER OF MEETINGS.—The Jefferson County Society, with a hundred and eighty-three members, meets twice each month, with an average attendance of 41. It held 24 regular, and three special, meetings last year. Tuscaloosa, with 29 members, meets once every two months, held six meetings last year, with an average attendance of ten, which is 34%. Etowah, with a membership of 25, meets monthly, and held 12 meetings last year, with an average attendance of 15, which is 60%. Madison county, with 28 members, meets monthly, held 12 meetings last year, with an average attendance of 15, which is 50%. Seven of the counties in this class meet quarterly, viz: Bibb, Calhoun, Coosa, Fayette, Franklin, Talladega, and Tallapoosa. The attendance in these counties varies from 40% to 60%, which is an average of 52½% of their membership.

The Boards of Censors in these counties seem to be doing good work. Examinations for certificates to practice medicine have been held in the following counties, viz:

County.	Number examined.	Certificates granted.	Refused.
Franklin	4	4	0
Etowah	6	5	1
Fayette	2	2	0
Jefferson	27	22	5
Madison	2	2	0
Tallapoosa	2	2	0
Tuscaloosa	3	3	0
	46	40	6

This gives a rejection of 13% of all the applicants; or 20% of the applicants of Jefferson County alone.

All of the above counties have Health Officers, and most of them are doing good work. In three of the counties nothing is said about the salary of the Health Officer; in the others it ranges from $75.00 to $1,200.00 per annum. Under the new law, the salary of the Health Officer of Bibb county was increased from $15.00 to $200.00. This was done by the members of the County Society going in a body to the Commissioners and representatives, and by pressing their claims, they secured this raise, with a promise to make it $300.00.

Class II includes those counties in which the organization and work are reported as fairly good; and the following counties have been placed in this class:

Blount ..... Members 7
Chambers ..... Members 15
Cherokee ..... Members 9
Colbert ..... Members 14
Clay ..... Members 14
Cleburne ..... Members 11
Cullman ..... Members 16
DeKalb ..... Members 12
Lamar ..... Members 10
Lawrence ..... Members 11
Lauderdale ..... Members 23
Limestone ..... Members 10
Marshall ..... Members 12
Morgan ..... Members 14
Madison ..... Members 28
Pickens ..... Members 13
Randolph ..... Members 15
Shelby ..... Members 19
St. Clair ..... Members 14
Walker ..... Members 25
Winston ..... Members 10

In the counties of Class II there are 285 members, 185 non-members, and 24 illegals. All of the counties of this group have Health Officers except Lamar county. In two of them the Health Officer has no salary, and three say nothing about salary in their report. In the remaining 14 counties the salary ranges from $25.00 to $300.00.

SALARIES OF HEALTH OFFICERS, AND WORK DONE.—Blount county, $75.00; works hard, and while, in a measure, successful, yet not as good as it should be. Chambers, no salary, and the amount of

work done is only fair. Cherokee, $150.00; very good success. Clay, $25.00; not very good success; the doctors do not coöperate. Cleburne, no mention of salary; success poor. Colbert, $111.00 under new law, and promises to do good work. Cullman, salary not given; some success. DeKalb, $125.00; expects good results from present officials. Lawrence, not given; good success, but prompt and vigorous action; stopped an epidemic of small-pox. Limestone, $120.00. Marion, $75.00; moderate success. Marshall, $40.00; very successful, and a good worker. Morgan, $100.00; fair success, and an earnest worker. Pickens, $125.00; does not meet with much success. Randolph, $75.00; met with poor success last year, but the outlook is brighter this year. Shelby, $160.00; fair success, and an earnest worker. St. Clair, $50.00; meets with fair success, and is a good worker. Walker, $300.00; rather more for attendance at pest-house than Health Officer; not so good as should be, but is improving. Winston, $50.00; reasonably good. Ten counties have illegal practitioners—Blount, 2; Cullman, 3; Lawrence, 4; Limestone, 2 or 3; Morgan, 2; Marion, 2. In Marion county, Dr. Brooks has been indicted, and the trial is to take place on the third Monday in May; this has been pending for three years, and the Society has three good lawyers employed to prosecute him. Marshall, 3; Randolph, 1; St. Clair, 1; Shelby, 1. These counties should go to work and vigorously prosecute all illegal doctors; if necessary, swear out warrants for them.

In the following counties examinations have been made for certificates to practice medicine: Chambers, 1 examination, 1 certificate granted; Colbert, 1 examination, 1 certificate refused; Cullman, 1 examination, 1 certificate granted; Lamar, 4 examinations, 4 certificates granted; Marion, 1 examination, 1 certificate granted; Morgan, 4 examinations, 4 granted; Pickens, 2 examinations, 2 granted; Randolph, 2 examinations, 2 granted; St. Clair, 4 examinations, 4 granted; Winston, 3 examinations, 2 granted, 1 refused. Making a total of 23 examinations, with two rejections, or 9% of the applications.

Class III—Includes those counties in which the organization and work are reported as unsatisfactory. Jackson is the only county placed in this class. It has a membership of 10; is supposed to meet monthly, but only held one meeting last year. Sixteen physicians not members; no illegals reported. Health Officer has a salary of $150.00. The Secretary reports that they have started out this year with better prospects. This should be one of the best Societies in the State.

Class IV—Includes those counties in which the methods are loose and irregular, and little or no work is done. I am glad to be

able to report that no county in my district deserves to be placed in this class.

SUMMARY.

There are 33 counties in the Northern Division; a report has been received from all the counties, and each has been classified as well as I could. It may be that some of them are not properly classed. If any of the counties are classed too low, then let that Society go to work and put itself in such good shape that there will be no doubt as to which class it belongs. If one is classed too high, then let that Society do such work that it will be retained in that class and not dropped to a lower one.

Class I has .....402 members, 142 non-members, 12 illegals.
Class II has .....285 members, 185 non-members, 24 illegals.
Class III has..... 10 members, 16 non-members, .. illegals.

Total	697	343	36

Making the membership this year..... 697
Non-members 343

1940

The number of legally qualified physicians in the Northern Division last year was 973, showing an increase of 67 legally qualified physicians in the Northern Division.

The membership of this division has increased 53, or 80% of the increased number of legally qualified doctors.

While the gain for one year may seem small, yet one only needs to study the Transactions for a few years back in order to see that we are steadily gaining, and that the standard is being improved in all the counties. It is more rapid in some than in others, but all are gaining.

I wish to say to my successor, that I will furnish him a copy of this report, and also the reports from the different Societies, so that he can go actively to work, without waiting for the Transactions to be published. I know from experience that this will be a great help to him.

I thank you all for the honor of serving as one of your Vice-Presidents.

Dr. J. R. G. Howell, Junior Vice-President, then submitted a report covering the Southern Division of the State.

At this juncture, the President read to the Association the following telegram from Dr. Glenn Andrews, who, on account of impaired health, is unable to be present at this meeting:

LAS VEGAS, N. M., April 19, 1904.

Dr. M. B. Cameron, President State Medical Association, Mobile:

I wish you and members of Association pleasant and profitable meeting.

GLENN ANDREWS.

Upon motion of Dr. Sanders, the Secretary was instructed to wire Dr. Andrews the regrets of the Association that he was not able to be present, and also the sincere wishes of its members for his speedy recovery and return to Alabama.

A telegram was also read from Dr. Simmons, of Chicago, Secretary of the American Medical Association, containing a request that the Association will pass a resolution endorsing the Pure Food Bill now pending in Congress. This telegram was referred to the Board of Censors.

CHICAGO, ILL., April 19, 1904.

Dr. M. B. Cameron, President State Medical Association, Mobile:

Suggest adopting resolutions endorsing Pure Food Bill. See Journal, April 2nd. GEORGE H. SIMMONS.

Vice-President Howell then proceeded as follows:

REPORT OF THE JUNIOR VICE-PRESIDENT.

JOHN ROBERT GRAVES HOWELL, M. D., DOTHAN, ALA.

Mr. President, and Gentlemen of The Medical Association of the State of Alabama:

It now becomes my duty to give an account of my stewardship. There are some questions that you have a right to propound to your Vice-President.

One is: Has he made an effort to intensify the zeal of the members of the various County Societies in his district? To this question, I answer in the affirmative, for no opportunity has been neglected to promote professional harmony and love among the organized brotherhood of doctors in my division.

Another question is: Has he made an effort to get every eligible physician in his Division into the County Society? This is a question I also answer in the affirmative; for a personal letter and a reprint on the subject has been mailed to each one. Besides, an appeal in person has been made to every one when an opportunity presented itself.

A third question you would ask is: How has your Vice-President succeeded in performing the various duties of his office? This is a hard question. I certainly am not satisfied with the result. If future good does not follow, I shall feel that a minimum amount of success has been purchased at a high price.

This report will be somewhat different from those presented to you in former years. In the first place it must be short. In the second place it must cover as little statistical information reported by other officers as possible.

I wish to avoid personating as far as possible; this will be hard to do, however, for quite a number of physicians in my district have been so faithful, so manly, and so loyal to the cause we represent, that I can hardly refrain from mentioning their names in connection with the good work done. Others have done so poor that I am tempted to mention their names in disgust. But all of this would be wrong, for these citations could be used as political material, and this, you know, would degrade our noble organization.

In order to make the report short, our State Health Officer has suggested, very wisely, that the counties be grouped and classified.

Class A will include those counties that nearly approach perfection. They have a loyal membership covering every eligible physician in the county; have no illegal practitioner unprosecuted in their territory; hold regular weekly or monthly meetings, as circumstances will permit, at which papers are read and discussed; and have a Health Officer and a Board of Censors who do their duty.

Class B represents those which fall short in only a few instances, every point considered.

Class C represents those that show only moderate success.

Class D represents those that are wanting in a majority of the requirements.

In Class A I have but one county to report, viz: Bullock. Bullock has a membership of 19, which is an increase of 1. There is not an eligible physician in the county outside of the society. It holds regular monthly meetings, at which papers are read and discussed. There is unity of feeling and action among the doctors when the interests of the Medical Association of the State of Alabama are at stake. What we ask is that the members of the Bullock County Medical Society continue to develop the county organization and spread their influence throughout the State.

In class B we find Baldwin, with 12 members, which is an increase of 1; Dallas, with 25 members; Geneva, with 25 members, which is an increase of 1; Hale, with 21 members; Houston, with

32 members, which is a net gain of 4; Lowndes, with 26 members, which is an increase of 6; Mobile, with 40 members; Montgomery, with 51 members, which is a decrease of 1; Pike, with 21 members, an increase of 1; and Sumter, with 16 members, which is a loss of 2.

Baldwin could improve by meeting more frequently, and by inducing the two physicians who are out of the Society to join.

Dallas has considerable work to do, both inside and outside of the society. Nineteen physicians in Dallas are not members of the County Society. They should have attention. There are members of the society who are reported as ignoring the work of the society altogether.

Geneva has done a great work in the past two years by prosecuting illegals. There are, however, six physicians who should become members of the Geneva County Medical Society.

Hale having a doctor out of the Society, should make an effort to capture him.

Houston has no physician outside of the Society. Houston is kept out of Class A by having a few members who do not show loyalty to the cause on all occasions. There are two illegals in the county, both having been prosecuted.

Lowndes has only one physician outside of the County Society, and they hope to have him working in harmony by next year's report.

Mobile might accomplish something by getting the 25 physicians who are not members to join the already active phalanx.

Montgomery is reported as having 22 physicians outside of the County Society, and 5 illegals; it is further reported as having members who are not working in harmony as they should.

Pike does quite well, but those 11 practitioners who do not affiliate with the Society should be reached, if possible.

Sumter does good work considering the distance some live from the railroad, but four physicians not in line could help wonderfully if they were enrolled as members.

In Class C we find Autauga, with 12 members, which is an increase of 1; Barbour, with 18 members; Butler, with 15, which is a gain of 1; Chilton, with 12 members, which is an increase of 2; Clarke, with 25 members; Coffee, with 13 members; Conecuh, with 15 members; Dale, with 20 members, which is an increase of 1; Elmore, with 19 members, which is an increase of 3; Lee, with 17 members, which is an increase of 1; Monroe, with 18 members; Perry, with 13 members; Russell, with 9 members, which is a gain of 1.

Autauga is reported as having no physician outside of the County

Society, but the society meets only once a year, and this should, by all means, be remedied.

In Barbour county there are 9 physicians not members of the County Society, and the Health Officer is reported as not succeeding as efficiently with his work as he should.

In Butler there are two physicians outside of the County Society, and one illegal, and the Health Officer there is reported as not coming up to the full measure of the requirements.

Chilton county has four physicians outside of the Society, and papers are not read at every meeting.

Clarke county has four physicians in the county not members of the Society, and two illegals, and while papers have not been read and discussed in the past, the Society has passed resolutions to do so in the future.

Coffee has 7 physicians not members of the County Society, and papers are not read at every meeting.

In Conecuh county all of the physicians in the county who are eligible to membership are members, but there are two illegals. There is one sad report from that county, and that is this: Although the Health Officer receives $200.00 a year, he does not collect the statistics as well as they should have been collected.

In Dale there are two physicians not members of the County Society. The members have been somewhat careless during the past year in attending meetings and keeping up a general interest.

In Elmore there are 15 physicians not members, and two illegals, otherwise the County Society seems to be in a fair working condition.

In Escambia county there are six physicians not members, and the Health Officer has not been as successful in his undertaking as might be wished.

Henry has two physicians not members of the County Society, and three illegals.

In Lee county there are four physicians outside of the County Society. There has been no salary for the Health Officer in that county, and no work done along that line.

In Macon there are five eligible to membership, but not members, and a bad state of affairs as to Health Officer, for there has been no provision for that work previous to the last Legislature.

In Monroe there are two physicians not members, and the County Society only meets twice a year. This, of course, should be remedied.

Perry county has five physicians outside of the Society, and while the County Society does not meet but twice a year, the Health

Officer does good work, and does it without one cent of remuneration. That sounds like loyalty.

In Russell there are four physicians not members of the Society. There is one illegal, who has been prosecuted, and needs to be prosecuted continuously, as he is bidding defiance to the law.

In Class D we find Covington, with 16 members; Crenshaw, with 18 members; Greene, with 18 members; Marengo, with 21 members, which is an increase of 1; Washington, with 7 members, which is a decrease of 1; Wilcox, with 24 members.

Covington has five members outside of the Society, although she has gained 10 members this year. This county has been doing very little for several years, but I now see symptoms which lead me to expect great things of her in the near future.

Crenshaw has 7 physicians not members of the Society.

Information from Greene county has been so meagre that I am unable to say much about it.

Marengo has 11 physicians who should be induced to join the Society, and two illegals who should be prosecuted.

Washington has one illegal practitioner.

I am not in receipt of sufficient information from Wilcox to say anything further about it.

I find on counting up that there are in the Southern district 599 physicians who are members of the County Medical Societies, which is a net gain of 33 in the past twelve months. This gain we are proud of, but it should not satisfy us.

There are in the Southern district 191 physicians not members of the County Medical Societies, also 21 illegal practitioners, and 7 colored physicians. We have a duty to perform toward each of these three classes. We should induce the 191 to join us. We should exhibit high-toned object lessons to the 7 colored; and, we should prosecute the 21 illegals until they are induced to take their flight to some State of quackery.

I hope I have done no county an injustice in rating. Relying on what information I could get, I have made an effort to rate all fairly.

We are not divided as to what is our duty as members of The Medical Association of the State of Alabama. We all agree that it is our duty to build upon the foundation left us by the lamented Cochran. To build a structure in keeping with the foundation.

If we, the officers and members of The Medical Association of the State of Alabama, do not make matters better pertaining to our profession, our lives have been failures. With the present advantages surrounding us, we are wholly inexcusable if we do not accomplish great things. With the recent law enacted, the Health

Officer of each county will receive a salary sufficient to enable him to carry out his part of the work properly. I hope each county in my Division will be cautious in the selection of a Health Officer. I have no patience whatever with a man who will receive a Health Officer's salary, and hold what in effect is only a vacant office.

Any Health Officer failing to do his duty should be dealt with at the first meeting of his County Society, and if justice cannot be given him there, I am ready to help carry his case before the State Association.

It has been said that the growth of our organization is dependent upon the efforts of the officers. Again, it has been said that the members of the local societies are the only ones that can do successful work in their respective counties. I am thoroughly convinced that it requires the combined effort of those living in the county and the officers throughout the State to do the most effective work. There is not a man who cannot be reached if each member in the State does his duty.

Some decline to make an effort to get certain men to join the County Society on the ground that they are not fit material. I do not agree with that idea, for the worst man can be improved in every respect, and nothing else will do the work like membership in the County and State organization. This gives them contact with men whose influence is uplifting beyond conception.

I find that the best way on earth to get bad qualities out of my fellow practitioner is to get them out of myself, and let him see how admirable it is. My plea to each of the 599 physicians in the Southern District is: Never lose an opportunity to make a member a better member, and never neglect to induce those on the outside to unite with us.

I have complaint to make of a few Counsellors. There are a very few Counselors in the Southern District who are grossly neglecting their duty, and there are three who are reported as ignoring the work of the County Society altogether. I think this is a just cause for impeachment proceedings. When a man gets too large for his County Society he is then too small for a Counsellor. I hope by next year to be able to report quite a difference in matters along this line, or else bring before you facts and names that can be made the basis of operations.

There is a matter just now of general interest that may make us need advice from our Board of Censors. This matter I expect to grow out of The American League of Tuberculosis that is to meet in Washington in 1905. This is the organization that has, until recently, been known as The American Congress of Tuberculosis. For forthcoming reasons the name had to be changed. In

a recent conversation with the Secretary of that League, I was led to believe that he would make an effort to have a State League organized in every State. As I view it, it is our duty as individual physicians to take part in the furtherance of the cause that seems to be a worthy one, but with the present lights before me, I question the advisability of having organized within our State any league or society other than the County and State Societies as authorized by our charter. I merely mention this that our Board of Censors may advise us.

In the close of my report, I will ask every physician in the Southern District to remember that he is a committee of one to keep a cautious watch over the general interests of The Medical Association of the State of Alabama.

The next order of business being the report of the Secretary, Dr. Lewis C. Morris, of Birmingham, submitted the following:

REPORT OF THE SECRETARY.

LEWIS COLEMAN MORRIS, M. D., BIRMINGHAM.

To pursue fresh and untrodden paths is always fraught with difficulty. Your present Secretary—being new and untried in this field of labor—has found this eminently true. He begs, therefore, the indulgence of the members of this Association for the many palpable defects which may manifest themselves, and promises better things for the future.

I desire to express thanks to the officers of this Association, and also to the various county officers through whom business has had to be transacted, for their uniform promptness and willing support. More especially, I desire to express genuine gratitude to our Senior Censor, Dr. W. H. Sanders, and to his chief clerk, Mr. W. R. Brassell, both of whom have stood ever ready to lend me assistance, and who, by their timely aid and advice, have materially lessened the burden. It was deemed expedient and best to have the official residence of your Secretary in Montgomery, and Dr. J. Norment Baker has had charge of this office, where all routine business has been transacted.

The Grand Roll of Honour—The Book of the Dead—contains now forty portraits of those who, after varying years of labor in the cause which we now represent, have passed to their reward. Since the meeting of last year, in Talladega, one portrait—that of Dr. W. E. B. Davis—has been added to this list. Dr. Davis's death occurred on February 24th, 1903, prior to the meeting of last year.

His portrait and the sketch of his life for preservation in this Book of the Dead have been obtained during the incumbency of the present Secretary.

The Book of Portraits contains ninety-six faces; a number far smaller than it should be. Counsellors should remember that those who have served as such for five years are required by the Constitution of this Association to furnish the Secretary with a cabinet size portrait for permanent preservation in this Book of Portraits. Many have failed, thus far, to carry out this constitutional requirement.

The Book of the Rolls—which is simply the roll of the County Medical Societies—lacks much of being a model of perfection. County Secretaries—upon whom the correctness of this roll depends—are urgently requested to give this feature of their duty more careful consideration, and to see to it that due care is had in its preparation.

The Secretary is *ex-officio* Chairman of the Publishing Committee, and as such is responsible for all of the papers read before the Association. As is known to all of you, each paper, as read, should be handed to the Secretary. This rule—for it is a rule of the Association—is frequently violated, and, as a consequence, much trouble is created. Not alone this, but often one or more valuable papers are lost to the Transactions from failure to observe this requirement. You, who read papers, are exhorted to come prepared to turn in the manscript to the Secretary immediately after reading.

Immediately after the Talladega meeting, notices were sent to those members who had been chosen Counsellors, together with the usual "Counsellor's Pledge" for their signature. Of the six appointed at that meeting, one—Dr. Thomas Northen, of Ashland,—declined the honour.

In November last, the Secretary received a communication from Dr. Allport, of Chicago, Ill., enclosing literature relative to a resolution passed at the last meeting of The American Medical Association, bearing on the importance of having legislation, in each State, to regulate the examination of the eyes and ears of school children. Dr. Allport requests that this matter be brought before our State body, and that some action be taken in regard to it.

On March 1st, according to the usual custom, a preliminary circular, announcing the approaching meeting of the Association, embracing, also, certain other items of importance, was sent to each member. To add interest to this circular, it was deemed advisable to publish the list of regular reporters, and, as far as possible, the volunteer papers.

The usual arrangements of one and one-third fare, plus twenty-five cents, was made with the railroads regarding transportation. These arrangements were made through Mr. Joseph Richardson, Chairman of the S. E. Passenger Association, Atlanta, Ga.

One other Counsellor—a Grand Senior Life Counsellor—Dr. Andrew Jay, of Evergreen, has passed into the Great Beyond since our meeting of last year. Thus far, an attempt to procure, through his wife, a portrait and a sketch of his life, has proven unsuccessful.

The expenses incurred by this office have been as follows:

Stamps	$5.00
Use of dray	1.00
Stamps	1.40
Stamped envelopes (1,500 one-cent)	16.50
Stamps, (one-cent)	15.00
Note book	.25
(In account with Brown Printing Company)—	
Two rubber stamps and pad	$1.80
1,000 letter heads	3.50
2,000 envelopes	5.50
1,500 Annual Circulars	9.50
1,800 Programmes	15.00
1,500 envelopes	2.25
400 badge buttons	14.60
Dray	.25
Total	$90.55

All of which is respectfully submitted.

LEWIS COLEMAN MORRIS, Secretary.

Dr. H. G. Perry, Treasurer of the Association, then read his report, as follows:

REPORT OF THE TREASURER.

HENRY GAITHER PERRY, M. D., GREENSBORO, ALA.

Mr. President, and Members of The Medical Association of the State of Alabama:

Gentlemen: I have the honor to submit the following report:

In this statement I have left out the amount due the Association by Josiah Morris & Co., which is $562.43, and give only the actual cash on hand as by my last report.

I have charged myself with $5.00 each for Drs. Casey, Howell, J. R. G., and Fleming, who, according to my published report, paid $5.00 each last year as Counsellors-Elect, when my books show that they paid $10.00 each as Junior Counsellors.

H. G. Perry, M. D., Treasurer, in account with The Medical Association, State of Alabama, from April, 1903, to April, 1904:

Cash on hand, as by last report	$1,120.57
To typographical error, acct. Casey, Fleming, and Howell	15.00

To amount received from Counsellors:

Andrews, Glenn	$10.00
Appleton, H. L.	10.00
Ard, E. B.	10.00
Baldwin, B. J.	10.00
Bancroft, J. D.	10.00
Bell, W. H.	10.00
Bennett, B. F.	10.00
Blake, W. H.	10.00
Bondurant, E. D.	10.00
Bragg, Shirley	10.00
Brown, George S.	10.00
Cameron, M. B.	10.00
Casey, T. A.	10.00
Coley, A. J.	10.00
Cunningham, R. M.	10.00
Desprez, L. W.	10.00
Dewees, Thomas P.	10.00
Dryer, T. E.	10.00
Duggar, R. H.	10.00
Fleming, P. T.	10.00
Frazer, T. H.	10.00
Gaston, J. L.	10.00
Gay, S. G.	10.00
Goldthwaite, Robert	10.00
Goode, Rhett	10.00
Green, Henry	10.00
Guice, C. L.	10.00
Harlan, A. L.	10.00
Harlan, J. J.	10.00
Harper, W. W.	10.00
Harrison, W. G.	10.00
Heflin, Wyatt	10.00

The usual arrangements of one and one-third fare, plus twenty-five cents, was made with the railroads regarding transportation. These arrangements were made through Mr. Joseph Richardson, Chairman of the S. E. Passenger Association, Atlanta, Ga.

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Stamps	$5.00
Use of dray	1.00
Stamps	1.40
Stamped envelopes (1,500 one-cent)	16.50
Stamps, (one-cent)	15.00
Note book	.25
(In account with Brown Printing Company)—	
Two rubber stamps and pad	$1.80
1,000 letter heads	3.50
2,000 envelopes	5.50
1,500 Annual Circulars	9.50
1,800 Programmes	15.00
1,500 envelopes	2.25
400 badge buttons	14.60
Dray	.25
Total	$90.55

All of which is respectfully submitted.

LEWIS COLEMAN MORRIS, Secretary.

Dr. H. G. Perry, Treasurer of the Association, then read his report, as follows:

REPORT OF THE TREASURER.

HENRY GAITHER PERRY, M. D., GREENSBORO, ALA.

Mr. President, and Members of The Medical Association of the State of Alabama:

Gentlemen: I have the honor to submit the following report:

In this statement I have left out the amount due the Association by Josiah Morris & Co., which is $562:43. and give only the actual cash on hand as by my last report.

I have charged myself with $5.00 each for Drs. Casey, Howell, J. R. G., and Fleming, who, according to my published report, paid $5.00 each last year as Counsellors-Elect, when my books show that they paid $10.00 each as Junior Counsellors.

H. G. Perry, M. D., Treasurer, in account with The Medical Association, State of Alabama, from April, 1903, to April, 1904:

Cash on hand, as by last report	$1,120.57
To typographical error, acct. Casey, Fleming, and Howell	15.00

To amount received from Counsellors:

Andrews, Glenn	$10.00
Appleton, H. L.	10.00
Ard, E. B.	10.00
Baldwin, B. J.	10.00
Bancroft, J. D.	10.00
Bell, W. H.	10.00
Bennett, B. F.	10.00
Blake, W. H.	10.00
Bondurant, E. D.	10.00
Bragg, Shirley	10.00
Brown, George S.	10.00
Cameron, M. B.	10.00
Casey, T. A.	10.00
Coley, A. J.	10.00
Cunningham, R. M.	10.00
Desprez, L. W.	10.00
Dewees, Thomas P.	10.00
Dryer, T. E.	10.00
Duggar, R. H.	10.00
Fleming, P. T.	10.00
Frazer, T. H.	10.00
Gaston, J. L.	10.00
Gay, S. G.	10.00
Goldthwaite, Robert	10.00
Goode, Rhett	10.00
Green, Henry	10.00
Guice, C. L.	10.00
Harlan, A. L.	10.00
Harlan, J. J.	10.00
Harper, W. W.	10.00
Harrison, W. G.	10.00
Heflin, Wyatt	10.00

Henderson, S. C.	10.00
Henley, A. T.	10.00
Hill, A. G.	10.00
Hill, L. L.	10.00
Hill, R. S.	10.00
Howle, J. A.	10.00
Howell, J. R. G.	10.00
Huggins, Jacob	10.00
Inge, H. T.	10.00
Johnston, L. W.	10.00
Jones, E. S.	10.00
Jones, Julius	10.00
Justice, O. S.	10.00
Justice, R. L.	10.00
King, Goldsby	10.00
LeGrand, J. C.	10.00
Lowry, S. H.	10.00
Maples, W. C.	10.00
Maréchal, E. L.	10.00
Moody, H. A.	10.00
Moon, W. H.	10.00
Morris, L. C.	10.00
McCants, R. B.	10.00
McCain, W. J.	10.00
McEachern, J. A.	10.00
McClendon J. W.	10.00
McWhorter, G. T.	10.00
Nolen, A. J.	10.00
Parke, T. D.	10.00
Perry, H. G.	10.00
Pride, W. T.	10.00
Peerson, J. M.	10.00
Redden, R. J.	10.00
Riggs, E. P.	10.00
Robertson, W. H.	10.00
Robinson, T. F.	10.00
Schoolar, M. C.	10.00
Searcy, J. T.	10.00
Shivers, O. L.	10.00
Sims, A. G.	10.00
Sims, B. B.	10.00
Somerville, W. G.	10.00
Sutton, R. L.	10.00

Talley, D. F.	10.00	
Tam, S. S.	10.00	
Thigpen, C. A.	10.00	
Trent, P. G.	10.00	
Waller, G. P.	10.00	
Watkins, I. L.	10.00	
Welch, S. W.	10.00	
Whaley, Lewis	10.00	
Wheeler, W. C.	10.00	
Whitfield, B. W.	10.00	
Whitfield, J. B.	10.00	
Wilkerson, C. A.	10.00	
Wilkinson, D. L.	10.00	
Wilkinson, J. E.	10.00	
Williams, J. H.	10.00	
Wyman, B. L.	10.00	
91 Counselors, at $10.00		$910.00

RECEIVED FROM COUNSELLORS-ELECT.

Wilder, W. H.	$10.00	
Givhan, E. G.	5.00	
Harris, Seale	5.00	
Howell, S. M. C.	5.00	
Pitts, R. M.	10.00	
Total for 5 Counsellors-Elect		$35.00

TO AMOUNTS RECEIVED FROM DELEGATES TO TALLADEGA.

Autauga—H. W. Thompson	$5.00
M. D. Smith	5.00
Baldwin—R. A. Haile	5.00
Bibb—E. M. Prince	5.00
Blount—D. S. Moore	5.00
Bullock—Seale Harris	5.00
Calhoun—A. N. Steele	5.00
W. B. Arberry	5.00
Chambers—Z. T. Grady	5.00
Cherokee—T. G. Miller	5.00
Chilton—N. S. Johnston	5.00
C. N. Parnell	5.00
Clarke—L. O. Hicks	5.00

Clay—Thomas Northen	5.00
Cleburne—S. L. Williams	5.00
L. R. Wright	5.00
Colbert—H. W. Blair	5.00
Coosa—W. E. Maxwell	5.00
W. A. Holloway	5.00
Cullman—R. D. Humphreys	5.00
John Yielding	5.00
Dale—S. M. C. Howell	5.00
Dallas—E. B. Ward	5.00
W. H. Taylor	5.00
DeKalb—H. P. McWhorter	5.00
Elmore—J. W. Sewell	5.00
Etowah—R. F. McConnell	5.00
Fayette—T. W. Jones	5.00
Hale—S. C. Carson	5.00
Houston—M. S. Davie, Jr	5.00
Jefferson—J. D. Heacock	5.00
R. A. Jones	5.00
Lamar—J. C. Buckalew	5.00
Lauderdale—E. C. Lindsey	5.00
W. M. Price	5.00
Lawrence—T. H. Irwin	5.00
Lee—O. M. Steadham	5.00
Limestone—H. A. Darby	5.00
N. B. Wallace	5.00
Lowndes—M. H. Hagood	5.00
Macon—J. T. May	5.00
Marion—W. V. Phillips	5.00
Mobile—P. J. Glass	5.00
G. H. Searcy	5.00
Montgomery—J. N. Baker	5.00
P. S. Mertins	5.00
Perry—E. Gulley	5.00
Pike—R. C. Dickinson	5.00
Russell—R. F. Yarbrough	5.00
Shelby—William C. Williams	5.00
E. H. Givhan	5.00
St. Clair—E. A. Harris	5.00
Talladega—T. C. Anderson	5.00
J. T. Kent	5.00
Tallapoosa—S. H. Newman	5.00
Tuscaloosa—W. M. Faulk	5.00
Total, 56 Delegates, at $5.00	**$280.00**

RECEIVED FROM COUNTY SOCIETIES, DUES FOR TALLADEGA SESSION.

Autauga	$8.00
Baldwin	9.00
Barbour	14.00
Bibb	22.00
Bullock	12.00
Butler	5.00
Calhoun	21.00
Chambers	8.00
Cherokee	8.00
Chilton	6.00
Choctaw	7.00
Clarke	10.00
Clay	7.00
Cleburne	10.00
Coffee	12.00
Colbert	9.00
Conecuh	8.00
Coosa	9.00
Covington	13.00
Crenshaw	4.00
Cullman	14.00
Dale	14.00
Dallas	18.00
DeKalb	9.00
Elmore	13.00
Escambia	9.00
Etowah	14.00
Fayette	8.00
Franklin	7.00
Hale	10.00
Henry	9.00
Houston	24.00
Jackson	9.00
Jefferson	143.00
Lamar	8.00
Lauderdale	18.00
Lawrence	4.00
Lee	6.00
Limestone	9.00
Lowndes	11.00
Macon	9.00
Marengo	17.00

Marion	6.00	
Mobile	29.00	
Monroe	14.00	
Montgomery	32.00	
Morgan	14.00	
Perry	10.00	
Pickens	7.00	
Pike	16.00	
Russell	2.00	
Shelby	12.00	
Sumter	12.00	
Talladega	17.00	
Tallapoosa	11.00	
Tuscaloosa	18.00	
Walker	6.00	
Washington	2.00	
Winston	7.00	
Total, 59 Counties, paid as Dues		$729.00

MISCELLANEOUS RECEIPTS.

Dr. J. E. Pearson, Sylacauga	$1.00	
Dr. J. P. Turner, Cropwell	1.00	
Elrod Brothers, Albertville	1.00	
Dr. M. G. Shipp, Albertville	1.00	
Total Miscellaneous Receipts		$4.00

RECAPITULATION.

To cash on hand as above	$1,135.57
To amount received from 91 Counsellors	910.00
To amount received from 5 Counsellors-Elect	35.00
To amount received from 56 Delegates to Talladega	280.00
To amount of Dollar Dues from 59 Counties	705.00
To Miscellaneous Receipts	4.00
Total cash on hand and received	$3,093.57

DISBURSEMENTS.

Paid expenses to Talladega Session	$71.00
Paid premium on Treasurer's bond, '02 and '03	16.00
Paid expenses Osteopathic legislation	30.00

Paid attorney's retainer (Hon. T. H. Watts)...	50.00	
Paid Brown Ptg. Co., Transactions, 1903.....	1,420.71	
Paid American Medical Journal, Reprints.....	1.60	
Paid expenses Vice-Pres. Stovall, 1903-1904....	10.00	
Paid expenses Vice-Prest. Howell, 1903-1904....	12.00	
Paid salary Secretary	250.00	
Paid incidental exps. Secy. including badges..	55.00	
Paid salary of Treasurer and Registrar.....	120.00	
Paid incidental expenses of Treasurer.....	10.00	
Paid Printing for Treasurer	9.75	
Total expended		$2,056.31
Cash on hand to balance		1,013.26
		$3,069.57

The Publishing Committee next submitted its annual report through its chairman, Dr. L. C. Morris, Secretary:

REPORT OF THE PUBLISHING COMMITTEE.

To the President and Members of The Medical Association of the State of Alabama:

The Publishing Committee begs leave to submit the following report:

Thirteen hundred and fifty (1,350) copies of the Transactions of the meeting of 1903 were printed and distributed (including wrapping and postage) at a total cost of thirteen hundred and seventy-four dollars and sixty-six cents ($1,374.66).

The volumes were distributed as follows:

To Counsellors and Delegates, 2 volumes each.....	360
To Members (800), 1 volume each	800
To 6 Correspondents, 1 volume each	6
To Exchanges, and other State Boards Health.....	107
Total	1,273
Deposited in office State Board of Health	77
Grand Total	1,350

About sixty-five volumes from other Associations and Boards of Health were received during the year, and deposited in the office of the State Board of Health.

L. C. MORRIS, M. D., Chairman,
W. H. SANDERS, M. D.,
GLENN ANDREWS, M. D.,
Committee.

Each of the above reports as read was, according to rule, referred to the Board of Censors.

The President then announced as the next order of business reports of Special Committees.

Dr. W. H. Sanders, Chairman of the Committee on the Jerome Cochran Monument, asked that the report of that Committee be postponed to the following day. Motion to that effect was made and adopted.

Miscellaneous business was then in order.

Under this head, the President read a communication from the Young Mens' Christian Association, of Mobile, cordially extending the privileges of their building to the members of the Association. Upon motion, the invitation was accepted.

The Secretary then read a letter from Dr. James B. Bullitt, Secretary of the Kentucky State Medical Association, outlining a plan for the establishment of a Journal in each State, to be owned and controlled by the organizations of such States. The communication contained a request that this Association would give the matter due consideration, and if favorably impressed with the scheme, that it would send a delegate to Atlantic City for the purpose of conferring with delegates from other States, looking to the formation of a National Organization of State Journals. The communication of Dr. Bullitt here follows:

LOUISVILLE, KY., February 29, 1904.

Dear Doctor: Permit me to ask your consideration of the enclosed statement, which will be self-explanatory. Some half dozen of the States have already begun the publication of a State Journal, and it seems probable that in the near future many more will undertake the same thing. Therefore, action along the lines indicated would seem appropriate at this time. It is desired that the President of your State Association should be made acquainted with what is intended, and that the matter should then be brought before the annual meeting of your State Society, with the request that a delegate be appointed to meet in Atlantic City on June 6th, to discuss the matter, effect organization, if it is deemed by a majority of

those present to be advisable, and to perfect details of such arrangement.

Kindly let me know your impression in regard to the matter, and, after your State Society has had its meeting, further inform me as to what action is taken in regard to it. Also let me know the name of the delegate who may be appointed. Arrangements as to time of day and exact place of meeting will be completed and notification of these details will be sent to such delegate.

This matter is undertaken with the concurrence of Dr. Philip Mills Jones, Editor of the *California State Journal of Medicine*, and Dr. A. P. Biddle, Editor of the *Journal of the Michigan State Medical Society.*

Very truly yours,

JAMES B. BULLITT,

Secretary Kentucky State Medical Association.

[The following is the "statement" referred to in the above communication]:

The State Journal of Medicine, owned by the State Association, edited by one of its members, and published in the interest of the organized medical profession of the State, constitutes a new and important departure in medical journalism, whose influence for good will be exercised in proportion to the high plane which such publication is able to assume and maintain. Going, as it does, to every member of the organized State Society, it bears a peculiar relationship to the physicians in the State, differing from every other journal, except that of The American Medical Association, in the respect that each member of the State Society is a partial owner of such journal. These journals are powerful factors in the establishment and, what is perhaps even more important, the maintenance of effective State organization.

It is proposed to bring together in a National organization all State journals now existent, together with those which will come into the field in the future. Such an organization could be appropriately called The American Association of State Medical Journals. An Association of this character would be beneficial to its components in several important ways. It could deal with uniformity with the subject of ethical advertising, and so do, in an effective way, what can probably never be done so long as these matters are left to be determined by each journal separately.

In the matter of securing advertisements, it is probable that an arrangement could be made with all the large advertisers for advertisements to appear simultaneously in all the State journals. The experience of these journals up to the present time has doubtless been much the same all over the country; advertisements are hard to secure. This is a matter of great importance, for the reason that the journals not only need the financial support obtained in this way, but also because the journal is the proper medium of intelligence between the manufacturing chemist on the one hand, and the practicing physician on the other. Even if the journal did not need the money obtained in this way, it would still be important for it, for the sake of its readers, to have advertisements of ethical manufactures.

Looking away from the commercial advantages to be derived from such organization of State medical journals, it is beyond question that great benefit would accrue from the association in this way of State journals, along all the proper lines of medical journalism.

To this end it is proposed to issue an invitation to all State societies to send a delegate or representative to attend a meeting to be held at Atlantic City on Monday, June 6th, the day before the beginning of the American Medical Association. This matter could be discussed and action taken looking toward the organization outlined above."

Upon motion, the matter was referred to the Board of Censors.

No further miscellaneous business being presented, it was moved by Dr. Sholl that the Association adjourn, to meet, according to the programme, at 8 P. M. this evening, with the understanding that the members of the Association would be the guests of the Mobile Medical Society during the afternoon.

THE BOAT RIDE.

To the sailor-boy, perhaps, who is accustomed to the water, "a boat ride on the bay" would offer no special inducements. But to the inland doctor who so seldom has the opportunity of enjoying such a treat, this form of amusement appeals most strongly. Therefore, when the President, at the close of the morning session, announced that at 2:30 P. M. the members, together with their families, were invited to assemble at the St. Francis Street wharf, and enjoy a boat ride on the Bay, there was much rejoicing. Promptly at the appointed hour "Docs."

from all points of the compass began to swarm upon the deck of the steamer James A. Carney.

The day was ideal. Nature seemed to strain a point to put forth the clearest of skies, and the brightest of spring sunshine. Add to this beautiful effect of nature the many fair faces of the visiting ladies and of the Mobile hostesses who kindly consented to grace the occasion; a brass band playing, at intervals, music of the sweetest strains, and it would be difficult, indeed, to conceive of environment more conducive to perfect pleasure.

Nor was this all: "Mobile hospitality,"—in the struggle for absolute supremacy—never loses sight of the "inner man." And so it was not long before the members were treated to a delightful lunch — from the menu of which was omitted not even Mellin's Food, or 'The Diet of Worms." Shortly after the completion of lunch, word was whispered about among those bibulously inclined that if they would "step below," something would be found not altogether distasteful to the palate. The writer of this—being, by nature, timid and sober—at first refrained; but, later, mustering together all the courage possible, made the venture. The picture which greeted the eye was both pleasing and attractive. The center of attraction seemed to be a little brown keg perched upon a high pedestal in the center of the deck—the capacity of which, even under high pressure, proved never-ending. Behind this was seated Mobile Society's President—who, shortly before, had welcomed in the most cordial terms the members to his city, and who, in the near future, was to prove such a worthy master in the art of presiding over Bacchanalian revels. He, with quick and patient hand, was endeavoring to serve to the clamoring crowd around him the contents of his keg. It was not long, however, before the enormity of the task which he had undertaken dawned upon him; and realizing that all of his residual strength had best be conserved for future efforts, he quietly and gracefully resigned his post. For a moment this left the eager by-standers somewhat bewildered; but only for a moment. Spying in a distance their worthy Secretary (Birmingham contingency) they with one voice, raised him to this exalted post. Subsequent developments proved that this choice was an happy one. Profiting by the failure of his predecessor, he took his stand so that on his right was a "Hill" of no mean dimensions, while on his left was a most luxuriant growth of "Fennell."

Thus fortified, together with receiving reinforcements, oft-times from the contents of the keg, he succeeded in discharging, in admirable fashion, the duties of his office.

And thus they continued to steam out into the bay. In all likelihood they would still be "steaming" had not the strains of "Show me the Way to Go Home," from the lower deck reached the captain's ears; who, realizing that possibly some were becoming a little sea-sick, directed his vessel landward.

At 6:30 P. M. they reached the shore; and it was the unanimous expression of all on board that this occasion had been one of the pleasantest in the history of the Association.

EVENING SESSION, APRIL 19TH.

The Association was called to order promptly at 8 P. M., President Cameron in the chair.

The Secretary read a communication from Mr. D. S. Bauer, a prominent druggist of Mobile, extending to the members of the Association the courtesies of his establishment.

Before proceeding with the regular order of business, Dr. Morris, of Birmingham, moved that the privileges of the floor be extended to Drs. Thayer, of Baltimore; Warren, of New York; and Petty, of Memphis, these gentlemen being present. This motion was unanimously adopted.

The President then announced that the presentation of Regular Reports would be in order.

The first paper presented was by Dr. W. H. Robertson, of Clayton, on: "Cranial Injuries, with Report of Cases."

(For published paper see Part II of this Volume.)

The next paper was submitted by Dr. W. J. Kernachan, of Florence; subject: "State's Rights."

This paper aroused a considerable degree of interest, and was discussed by the following-named members: Dr. Sanders, McWhorter, LeGrande, Moody, and Sholl, the discussion being closed by the author of the paper.

(For published paper, and discussion thereon, see Part II of this Volume.)

The next paper on the programme was: "Intra-Tracheal Injections in the Treatment of Pulmonary Tuberculosis, with Report of Cases," by Dr. W. W. Mangum, of Eufaula.

Dr. Watkins, of Montgomery, said that owing to unavoidable circumstances, Dr. Mangum was unable to be present this evening, but had requested him to read the paper.

Dr. Brown, of Birmingham, moved that the paper be read by title, and insisted that this rule had prevailed at previous meetings of the Association, when the authors of papers were

not present. Dr. Morris, of Birmingham, expressed the opinion that the members of the Association desired to hear the paper read, and moved to amend Dr. Brown's motion to the effect that Dr. Watkins proceed to read the paper. The amendment prevailed, and Dr. Watkins so proceeded.

(For published paper see Part II of this Volume.)

At the close of the reading of this paper, the hour being late, the Association, upon motion, adjourned to meet, according to the programme, at 9 o'clock tomorrow morning.

MORNING SESSION, WEDNESDAY, APRIL 20TH.

The Association was called to order at 9:15 A. M. by the President, Dr. Cameron.

Prayer was offered by Dr. A. J. Coley, of Alexander City, a member of the Association.

Dr. Howell, of Dothan, moved that the paper of Dr. Mangum, read just before the close of the evening session of yesterday, by Dr. Watkins, be now declared open for discussion. This motion prevailed, whereupon the paper was discussed by Drs. Howell and Dean, the discussion being closed by Dr. Mangum, author of the paper, he having arrived this morning.

(For published paper see Part II of this Volume.)

The reading of the Regular Reports was resumed.

The next paper on the programme was one by Dr. W. M. Jordan, of Birmingham; subject: "The Operative Treatment of Fractures of the Patella and of Certain Fractures of Long Bones."

Dr. Jordan not being present, this paper was passed.

The subject of the next paper, according to the programme, was one by Dr. A. L. Harlan, of Alexander City, on: "Puerperal Sepsis, its Prevention and Treatment."

Dr. Harlan not being present, this paper was passed.

The subject of the next paper was: "A Study of the Blood in Unciniriasis," by Dr. W. G. Harrison, of Talladega.

Dr. Harrison having previously informed the President of his inability to be present, upon motion, this paper was read by title.

(For published paper see Part II of this Volume.)

The subject of the next paper was: "Ex-Ophthalmic Goitre," by Dr. E. P. Riggs, of Birmingham.

Dr. Riggs not being present, this paper was passed.

The subject of the next paper announced was: "Nervous Diseases in Alabama," by Dr. E. D. Bondurant, of Mobile.

Dr. Bondurant not being present, this paper was passed.

The subject of the next paper was: "Hemorrhage an Important Element in Surgical Shock," by Dr. Frank P. Pettey, of New Decatur. As Dr. Pettey was not present, this paper was passed.

The subject of the next paper read was: "Abdominal Hysterectomy for Fibroid Tumors of the Uterus," by Dr. George H. Noble, of Atlanta, Ga. This paper was discussed by Drs. Watkins, and Inge, the discussion being closed by Dr. Noble, the author of the paper.

(For published paper, and discussion thereon, see Part II of this Volume.)

Dr. S. C. Henderson, of Brewton, then presented a paper on: "Psychic Impressions as a Therapeutic Agent." This paper was discussed by Dr. Wyman, of Birmingham; the author, Dr. Henderson, closing.

(For published paper, and discussion thereon, see Part II of this Volume.)

President Cameron then announced that the hour of eleven having arrived, by a standing order of the Association, the "Jerome Cochran Lecture" would be heard, and proceeded to introduce Dr. William S. Thayer, of Baltimore, as the Lecturer who had been chosen for this occasion. Dr. Thayer presented an able and most interesting paper on: "The Cardiac and Vascular Complications and Sequels of Typhoid Fever."

At the conclusion of Dr. Thayer's lecture, Dr. Wyman, of Birmingham, moved that the Association, by a rising vote of thanks, express its appreciation of this valuable contribution upon an important subject. Dr. LeGrande, of Birmingham, moved to amend this motion by a similar vote of thanks to Dr. Noble, of Atlanta, for his paper. The motion, as amended, was unanimously adopted by a rising vote.

At this point, Dr. Sanders, State Health Officer, asked that he be allowed to make some announcements.

The privilege having been granted by the President, Dr. Sanders said that in advance of this meeting a circular letter was sent out to the Health Officers of all counties in the State requesting them to be present, with the view of calling them together in separate session for the purpose of discussing questions which vitally concern them and the people of their re-

spective counties. He then announced that all Health Officers in attendance are requested to meet at the hall of the Mobile Medical Society at 8:30 o'clock tomorrow morning for the purpose already stated.

He then said that if it has not already been done he desired on behalf of the Faculty of the Medical College to extend a cordial invitation to the members of the Association to visit that institution during their stay in Mobile, and added that the janitor would take pleasure in showing visitors through the building whenever they might call.

Dr. Sanders finally extended an invitation to the wives, and lady friends of all visiting doctors, including children, to meet at Bienville Park this afternoon at 3 o'clock, when it would afford him pleasure to provide carriages to give them a drive down the "Shell Road," one of the attractions of Mobile. He said the arrangement would be for this party to drive down to the end of the road, and, after enjoying the Gulf breezes for an hour, more or less, to stop at Monroe Park on the return trip, where they will be met by the Association, the Faculty of the Medical College having, as will be seen on the programme, extended an invitation to the Association to make an excursion to Monroe Park, where they will be entertained.

Subject of the next regular paper read was:

"Pure Drinking Water for Country Homes and Villages and Towns Unprovided with Water Works."

This paper was presented by Prof. Edgar B. Kay, of the State University, he being Professor of Civil Engineering in that Institution.

At the conclusion of the reading of this paper, the hour for adjournment having arrived, Dr. McKittrick, of Evergreen, moved that instead of adjourning, the Association take a recess until 3 o'clock this afternoon, and that when it reconvenes the discussion of Prof. Kay's paper shall be in order. The motion was duly seconded and carried, whereupon the Association adjourned.

AFTERNOON SESSION.

Promptly at 3 P. M. the Association was called to order by President Cameron, whereupon, the discussion of Prof. Kay's paper was announced as in order. The paper was discussed by Drs. Moody, Sholl, and Sanders, the discussion being closed by the author of the paper.

(For published paper, and discussion thereon, see Part II of this Volume.)

The next paper on the programme was due from Dr. Cunningham Wilson, of Birmingham; subject: "Retro-Displacement of the Uterus." Dr. Wilson not being present to read his paper, Dr. Coulbourne, of Birmingham, moved that the privilege of the floor be granted to Dr. Mack Rogers, of Birmingham, for a period of ten minutes for the purpose of affording him an opportunity of reporting a very interesting case upon which he had recently operated.

Dr. Rogers then proceeded to give the details of "An Obscure Case of Pyelo-Nephrosis Simulating Typhoid Fever."

(For an account of the case, and discussion thereon, see Part II of this Volume.)

The subject of the next paper announced was: "Carcinoma of the Kidney," by Dr. J. W. Peters, of Birmingham. Dr. Peters not being present, the reading of this paper was necessarily omitted.

The next paper was due from Dr. B. B. Rogan, of Selma; subject: "The Practical Value of the Leucocyte Count in Inflammatory Conditions within the Abdomen."

Dr. Rogan not being present, this paper was passed.

Dr. G. Hartung of Cullman, was next called, and presented a paper on: "Otoliths and their Functions."

(For published paper see Part II of this Volume.)

The subject of the next paper on the programme was: "Surgery of the Arteries," by Dr. Rudolph Matas, of New Orleans, La.

President Cameron stated that he had just received a telegram from Dr. Matas, announcing the recent death of his father, and that for this reason it would be impossible for him to be present.

Dr. R. S. Hill, of Montgomery, moved that the Secretary be instructed to send a telegram to Dr. Matas in behalf of the Association, expressing the sympathies of the Association with him in his recent bereavement. This motion was duly seconded and unanimously carried.

At this juncture, Dr. Heflin, of Birmingham, moved that Dr. Jordan, of Birmingham, who had not arrived when his paper was called in regular order, be now allowed to present his paper. The motion was seconded and carried, whereupon, Dr. Jordan proceeded to read a paper on: "Operative Treatment of Fractures of the Patella, and of Certain Fractures of the Long Bones."

This paper was discussed by Drs. Coulbourne, Harper, Jackson, and Davis, the discussion being closed by the author.

(For published paper, and discussion thereon, see Part II of this Volume.)

Upon motion, the Association then adjourned.

EVENING SESSION, APRIL 20TH.

According to the usual custom, this session of the Association was given over to the reading of the "Monitor's Address," and to the "Annual Oration." The public at large of the city of Mobile displayed, in a most fitting manner, their interest both in the Association, and in things medical, by the choice and appreciative audience which assembled to greet the gentlemen who had been selected to deliver these addresses.

At 8:20 P. M. the Association was called to order by the President, Dr. Cameron.

Dr. Thomas D. Parke, of Birmingham, then delivered the "Monitor's Address," which was an able exposition of the evolution of the ethics and morals which pervade our profession today. The audience seemed much pleased with this address, and bestowed upon the essayist a liberal amount of applause.

(For published address see Part II of this Volume.)

Dr. Parke was followed by Dr. George S. Brown, of Birmingham, who delivered the "Annual Oration." Dr. Brown chose as the subject matter of this address: "The Charity which Science Teaches as Applied particularly to the Consideration of the Alcoholic Habit."

In this address were pointed out many important facts of which the public are apparently ignorant or, at least, careless; chiefest of which was the important basic principle which is at the root of so much of our drunkenness, viz.: that to many unfortunates, afflicted with the love for drink, this desire is as much a disease as is pneumonia or small-pox, and that, consequently, it should be handled and treated in a very different manner from that which it ordinarily receives.

This address is worthy of the careful study of the physician and the layman alike.

(For published oration see Part II of this Volume.)

At the close of this oration, the Association then adjourned to again partake of "Mobile's hospitality"; this time, in the shape of a beautiful reception at the "Elks' Home." To at-

tempt to describe the beauty, the graces, and the charms, which were here combined to give pleasure to the members, would be most difficult, and so, will not be attempted; suffice it to say that not even the grave admonitions of the "Worthy Orator" served to completely stem the tide of the "Loving Cup" or the "Flowing Bowl."

MORNING SESSION, APRIL 21ST.

The Association was called to order promptly at 9 A. M. by President Cameron.

No unfinished business being brought up, Dr. Sholl, of Birmingham, a member of the Board of Censors, asked permission to submit the following report from the Board:

Dr. Sholl said: "Mr. President and Gentlemen of The Medical Association of the State of Alabama:

"I am instructed by the Board of Censors to inform this Association that at one of the recent meetings of the Board, Dr. William H. Sanders, was reëlected to the position of State Health Officer, his term having expired—or expiring—with the present meeting. He was unanimously elected for a term of five years, and I am asked by the Board of Censors to request The Medical Association of the State of Alabama to ratify the action of the Board.

His record of faithful and efficient service is well known to every member of the Association, and therefore I move, Mr. President, that The Medical Association of the State of Alabama does now ratify the action of the State Board of Censors, of which notice has just been given.

This motion was duly seconded, and adopted by a rising vote.

Dr. W. W. Harper, of Selma, asked and received permission to introduce the following resolution:

Resolved, **That it shall be the duty of the President of The Medical Association of the State of Alabama to appoint, annually, a special reporter, who shall read at each annual meeting, a paper on proprietary medicines.**

Dr. Harper said: The profession is being flooded with proprietary medicines, some of which possess merit and some are absolutely worthless. I think some member of the Association should be appointed every year to devote special study to this subject, so as to give us an authoritative opinion as to

which of the proprietary medicines that are being continually brought to our attention are meritorious and which are valueless.

The resolution was referred to the Board of Censors.

The reading of regular reports was then resumed.

Dr. C. A. Thigpen, of Montgomery, read a paper on: "The Importance of early Diagnosis and Treatment in Suppuration of the Middle Ear." This paper was discussed by the following members: Drs. Greene, Harper, and Sutton, the author of the paper closing.

(For published paper, and discussion thereon, see Part II of this Volume.)

The President announced that owing to the inability of Dr. Thigpen to remain through the meeting and serve on the Committee for the Nomination of Counsellors, he would appoint Dr. I. L. Watkins, of Montgomery, to take Dr. Thigpen's place on that committee.

The next paper presented to the Association was by Dr. W. D. Haggard, of Nashville, Tenn.; subject: "Intractable Cases of Dyspepsia, Indicative of Chronic Lesions of the Stomach Curable by Operation."

(For published paper see Part II of this Volume.)

Dr. Morris, of Birmingham, moved that a vote of thanks be extended Dr. Haggard for the valuable paper presented. The motion was unanimously adopted.

The next paper presented was on: "Hyoscine," by Dr. McLean Pitts, of Selma.

This paper was discussed by Drs. Wyman, Petty, and Searcy.

(For published paper, and discussion thereon, see Part II of this Volume.)

Dr. J. T. Searcy, of Tuscaloosa, then presented a paper on: "Mental Abnormalities."

At the close of the reading of this paper, Dr. Harper, of Selma, moved that as the subject of the next paper on the programme was on a cognate subject to that just presented by Dr. Searcy, it be first read and then the two papers be discussed together.

This motion was adopted, whereupon, Dr. S. G. C. Pinckney, of Atlanta, read a paper on: "Some Phases of Crime as Viewed from a Medical Standpoint."

The two papers were discussed by Drs. Wyman, Kernachan, and Blake.

(For published papers, and discussion thereon, see Part II of this Volume.)

The next paper presented was by Dr. J. N. Baker, of Montgomery; subject: "Intestinal Obstruction due to Meckel's Diverticulum."

This paper was discussed by Drs. Haggard, Rogers, and Morris, the discussion being closed by the author of the paper.

(For published paper see Part II of this Volume.)

This closed the list of Regular Reporters.

Upon motion, the Association then adjourned, to meet in afternoon session, according to the programme.

AFTERNOON SESSION.

The Association was called to order promptly at 3 P. M. by Senior Vice-President Stovall.

Volunteer Papers were announced as the order of business.

The following list of papers under this head was called, and disposed of as stated below:

"Typho-Malarial Fever," by Dr. W. F. Betts, of Evergreen.

Dr. Betts read his paper, and it was discussed by Drs. Trammel, Fonde, Maples, Nabors, and Thayer, the discussion being closed by the author of the paper.

(For published paper, and discussion thereon, see Part II of this Volume.)

"Amœbic Dysentery," by Dr. C. W. Franklin, of Union Springs. Dr. Franklin being absent, this paper was passed.

At this point, Dr. Wheeler made a motion that inasmuch as Dr. Franklin was absent, Dr. Coulbourne, of Birmingham, be allowed to read a paper in his stead.

Dr. LeGrande objected to this motion, on the ground that there was a number of other volunteer papers yet to be heard, and that the time for the reading of these papers was growing limited; he, therefore, moved that the motion of Dr. Wheeler be tabled.

This objection was sustained, and Dr. Wheeler's motion was tabled.

"The Mechanical and the Operative Lines of Orthopedic Treatment," by Dr. A. F. Toole, of Birmingham. This paper was read.

(For published paper see Part II of this Volume.)

"Valvular Diseases of the Heart," by Dr. L. W. Johnston, of Tuskegee.

Dr. Johnston not being present, this paper was passed.

"Differentiation between Glaucoma and Cataract," by Dr. Louis Edelman, of Mobile. This paper was read.

(For published paper see Part II of this Volume.)

At this juncture, Dr. W. C. Maples moved a suspension of the rules, in order to allow Dr. Thayer, who, since the reading of Dr. Betts's paper, had arrived in the hall, the privilege of saying a few words in regard to "Typho-Malarial Fever."

Dr. LeGrande, owing to the short time remaining for the completion of the remainder of the programme, moved that this motion be tabled.

Dr. LeGrande's motion was lost, and Dr. Thayer was granted the privilege of the floor for ten minutes for the purpose of discussing Dr. Betts's paper.

(For Dr. Thayer's remarks, see the discussion on Dr. Betts' paper.)

"The Doctor's Business Side of Life Insurance," read by Dr. E. H. Sholl, of Birmingham.

This paper was discussed by Drs. Cameron, Edelman, Morris, LeGrande, Sanders, Moody, and Maréchal.

(For published paper, and discussion thereon, see Part II of this Volume.)

"Pelvic Cellulitis," by Dr. I. L. Watkins, of Montgomery.

Dr. Watkins not being present, this paper was read by title.

(For published paper see Part II of this Volume.)

"The Enforcement of the Public Health Laws of the State," by Dr. E. P. Nicholson, of Valley Head.

Dr. Nicholson not being present, this paper was passed.

"Gas and Ether in the Production of General Anæsthesia," by Dr. S. A. Billing, of Montgomery.

Dr. Billing not being present, this paper was passed.

"The Surgical Treatment of Myomata of the Uterus," by Dr. William H. Hudson, of Montgomery.

Dr. Hudson was not present, and this paper was passed.

"Some Disorders of the Digestive Tract," by Dr. G. H. Fondé, of Mobile. This paper was read.

(For published paper see Part II of this Volume.)

"The Office Treatment of Rectal Diseases," by Dr. M. S. Davie, Jr., of Dothan.

Dr. Davie not being present, the paper was read by title.

(For published paper see Part II of this Volume.)

"The Clinical Course of some Cases of Hook-Worm Disease," by Dr. J. M. Mason, of Birmingham.

Dr. Mason was not present, and this paper was passed.

"Prostatectomy, Indications and Technique," by Dr. W. R. Jackson, of Mobile. The paper was read by the author.

(For published paper see Part II of this Volume.)

"The Treatment of Chronic Leg Ulcers," by Dr. Walter S. Britt, of Eufaula. This paper was read by the author.

(For published paper see Part II of this Volume.)

"Strychnia as an Evacuant," by Dr. George E. Petty, of Memphis, Tenn. This paper was read by the author.

(For published paper see Part II of this Volume.)

"When Shall we Irrigate the Peritoneal Cavity?" by Dr. Clement Ritter, of Selma.

Dr. Ritter was not present, and this paper was passed.

"Acute Milk Infection," by Dr. Bernard Phillips, of Dothan.

Dr. Phillips not being present, this paper was read by title.

(For published paper see Part II of this Volume.)

This closed the list of Volunteer Papers.

Adjournment was now in order.

Dr. Sanders moved that, instead of adjourning, the Association take a recess until 8 o'clock tonight. His reason for this was that he had an important matter to present to the Association, and one in which each member should feel a personal interest, viz.: the Report of the Committee on the Jerome Cochran Monument.

This motion was seconded, and unanimously carried.

The Association then adjourned to 8 o'clock.

EVENING SESSION, APRIL 21ST.

Promptly at 8 P. M. President Cameron called the Association to order. Dr. Sanders, as Chairman of the Committee on the Jerome Cochran Monument, then submitted the following report:

REPORT OF THE COCHRAN MONUMENT COMMITTEE.

Mr. President and Gentlemen of The Medical Association of the State of Alabama:

The Committee on the Jerome Cochran Monument begs leave to submit the following report:

Amount of funds on hand at last report	$244.50
Amount received since last report (from the Barbour County Society	25.00
Amount now on hand (deposited in First National Bank, at Montgomery)	$269.50

The Committee begs to remind the Association that three years ago it formulated and submitted to the Association the following plan for raising the necessary funds for erecting the proposed monument:

It was estimated that $5,000.00 would be required and it was proposed to raise this amount in three years, which would amount to something over $1,500.00 per annum. The members of the County Societies were to be assessed at from one to two dollars per capita per annum. These assessments were made and the County Societies were duly notified thereof, but the following Societies are the only ones that have contributed:

Dr. G. T. McWhorter (personal)	$5.00
The Mobile Medical Society, assessed at $70.00, contributed	100.00
The Sumter Society	20.00
The Tuscaloosa Society	25.00
The Choctaw Society	9.00
The Etowah Society	16.00
The Macon Society	6.75
The Walker Society	20.00
The Colbert Society	8.00
The Cullman Society	15.00
The Bibb Society	20.00
The Shelby Society	9.75
The Barbour Society	25.00
Total	$279.50
Less postage	10.00
Amount on hand	$269.50

The committee regrets to be compelled to admit that the plan proposed by it and accepted by the Association has failed to bear the expected fruit. Whilst the committee is of the opinion that this failure is not due to any feeling of abandonment on the part of the members of the Association of their declared purpose to erect a monument, but rather to a disposition to procrastinate that sometimes dominates doctors, as well as other people, yet recognizing the facts as they are, the Committee refers the matter to the Association for such action as it may see fit to take thereon.

W. H. SANDERS, M. D.,
B. J. BALDWIN, M. D.,
Committee.

The discussion of this report was as follows:

Dr. Perry, of Hale: I will ask Dr. Sanders to add to that report two dollars from Pickens County, which was handed to me and overlooked, and seventeen dollars collected from the Hale County Society, which did not get into the report.

Dr. Kernachan: I have listened with considerable interest to the report of the Committee, and I must confess, with some surprise, that the results of the plan formulated have not been very much better than has been shown to-night, when we consider the services rendered to the profession in this State by Dr. Cochran. This is a matter, it seems to me, of extreme importance to the medical profession of the State of Alabama—the erection of a monument to the man who was the father of this organization, and really was the father of perfect medical organization in the United States. No brain on this continent had ever conceived an organization so broad and comprehensive in its scope until Jerome Cochran took hold of the matter, and it ought not to be considered a duty, but a pleasure, to each individual doctor in this State to honor him in death as we tried to honor him in life, and I hope that to-night some plan will be devised by which the amount necessary shall be raised to do honor to the memory of Dr. Cochran and to the medical profession of Alabama, as evidence of their gratitude and of the esteem which they had for the man who gave them the organization which we have to-day.

Dr. George T. McWhorter, of Riverton: *Mr. President*: In every age of the world since men emerged from original barbarism, they have deemed it wise and proper to erect monuments to the memory of their illustrious dead. It may be truthfully said that the world's progress in culture and refinement is

clearly marked by the prevalence of monumental marble and statuary bronze. With the progress of democracy, these memorials, erected at first only in honor of great kings and mighty conquerors, were appropriated by the good and noble in every walk of life. Men attained a juster conception of the factors that promote human progress, and refused to limit their memorial piles to great destroyers. In every center of the highest civilization to-day you may behold around you, upon every side, monuments erected to the memory of men who have distinguished themselves in law, medicine, science, literature, the arts, and arms. It is this feature that makes London, Washington, Vienna, Paris, and Berlin the most attractive cities in the world. It is safe to say that no people who have produced men worthy to be remembered have failed to honor their memory with some enduring monument.

This lovely city has not been derelict in this particular, as witness the Ketchum fountain, the Semmes statue, and Bienville Square. I stood for a few moments this morning in front of the Semmes Statue, admiring its noble proportions. As I gazed at the bronze image of the mighty sailor, visions of the past rose before me. I saw the Alabama, renowned for all time to come, a mere unit, a lonely integer, a dot, upon the surface of an illimitable sea, speeding on her mission of destruction. I saw the waves lit up with the flames of burning ships, fired by the most redoubtable commerce destroyer the world has ever seen. I heard the thunder of guns off Cherbourg Harbor that sealed the doom of the knightliest ship that ever sailed the sea. Finally, I saw an unconquerable human being struggling in the waves and refusing to yield, even when the decks on which he trod had plunged beneath the waters. This man was a citizen of Alabama—of Mobile—and her noble people refused to forget!

> "Lord God of Hosts, be with us yet,
> Lest we forget, lest *we* forget."

Trafalgar Square, with its towering Nelson monument, is not more creditable to mighty London than is this bit of bronze to this glorious city.

Have we, gentlemen, in the ranks of our profession, no heroes worthy to be thus commemorated? Has the revolutionary medical progress of the last quarter of a century been effected without bringing to the surface one man worthy to be

thus honored? Have our Reeds, Lazears, Davises, and Cochrans accomplished their mighty and humanitarian work before the eyes of men, only to be remanded to contemptuous oblivion? I should not err, gentlemen, if I declared that every man whose character, virtues, and ability enabled him to reach the presidency of this great Medical Association, and perhaps some others—there are always others—richly deserves to be commemorated in bronze. Yet, as one by one they retire from the field of their activities, we note with sorrow that no memorials have been erected to recall their lives and labors. No monoliths, no statues, no busts; not even the runic stones and cromlechs with which our savage ancestors honored their great dead. Have we, gentlemen, honored ourselves in ignoring our wisest and best? Have we asserted our claims to the highest development by neglecting the graves of the fallen giants of our profession? Will not the avenging Nemesis of deterioration follow hard upon our steps if we neglect the *manes* of our mighty dead?

Many members of this Association whose talents and virtues adorned and elevated the profession, have been called to their reward. Yet, the astounding progress in medicine, and the vast improvement in the condition of the human race which occurred in their day, are their only monuments. Perhaps after all, these are the most enduring. The discoveries they made were epochal. The literature they created is of incalculable value. In this, perhaps, they may be embalmed, as in amber, forever. The writings of Hippocrates and Galen were quoted with respect when the forum had crumbled into dust, and the Coliseum became a ruin.

Had I the power to immortalize Dr. Cochran in matchless verse, such as Gray's "Elegy in a Country Churchyard," or Tennyson's apotheosis of Arthur Hallum in "In Memoriam," I would not be pleading with you now to erect a bronze statue to his memory.

Alas, I have no such power! No "winged words" fly to me from the four corners of the earth for utterance. With me no thoughts that cannot die spring, self-evolved, into existence and go on singing in rythmical music forever.

"A few may touch the magic string,
And noisy fame be glad to win them.
Alas for those who never sing,
But die with all their music in them."

Denied the gift of poetic expression, I can only plead with you, gentlemen, in faltering accents and broken phrases, to honor yourselves by honoring the memory of this great Alabama doctor.

This Association has taken the initiative in this matter. If the task is ever successfully performed, it must continue to prosecute the work. It is useless to expect aid from the State. It is true the State of North Carolina honored the memory of the gallant young naval officer who lost his life at Matanzas, in the Spanish war, by erecting a noble monument. But Ensign Bagley was a sailor, not a doctor. Look at the neglected grave of his ranking officer, Surgeon Gibbs, who fell in the line of duty at Guantanamo, and ask yourselves what aid may be expected from the State in the prosecution of this enterprise. Nor can you reasonably expect substantial aid from the public at this juncture. The public has other things of greater "pith and moment" of which to think. It is too busy shouting peans of triumph at the chariot wheels of some military or naval celebrity to give much thought or attention to the men whose mission in life is to guard the household and protect the family. Like the author of Don Juan, the public:

"Wants a hero, an uncommon want,
When every week's report brings forth a new one,
And after filling the gazettes with cant,
The world finds out that he is not the true one."

Unlike the poet, it wants its hero, not as a peg on which to hang a poem, or a butt for gentle ridicule, but as a sacred calf to be bowed down to and worshipped for one long, thrilling week.

The most momentous and thrillingly interesting event that has occurred since the discovery of America, or, perhaps, since the birth of Christ, is the cleansing and disinfecting of Havana and the freeing of that ancient capital from the scourge of yellow fever. Yet this stupendous event, aglow with crescent promise for the future well-being of the human race, scarcely created a ripple on the surface of popular attention. By it the annual dead-rate in that city was reduced from 24,000 to 6,000. More human lives were saved every year than there were men hit with bullets, on both sides, during the Spanish-American war.

The highest tribute ever paid to the medical profession is the fact that this astonishing result was only a little more than the

thus honored? Have our Reeds, Lazears, Davises, and Cochrans accomplished their mighty and humanitarian work before the eyes of men, only to be remanded to contemptuous oblivion? I should not err, gentlemen, if I declared that every man whose character, virtues, and ability enabled him to reach the presidency of this great Medical Association, and perhaps some others—there are always others—richly deserves to be commemorated in bronze. Yet, as one by one they retire from the field of their activities, we note with sorrow that no memorials have been erected to recall their lives and labors. No monoliths, no statues, no busts; not even the runic stones and cromlechs with which our savage ancestors honored their great dead. Have we, gentlemen, honored ourselves in ignoring our wisest and best? Have we asserted our claims to the highest development by neglecting the graves of the fallen giants of our profession? Will not the avenging Nemesis of deterioration follow hard upon our steps if we neglect the *manes* of our mighty dead?

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people fully expected. Had they not seen small-pox banished, cholera and plague barred out, diphtheria asphyxiated, and tetanus robbed of its terrors? When Israel was scourged with epidemics the whole people assembled, put ashes on their heads, and humbly beseeched God to withdraw his hand. Not so with your modern citizen. When the danger comes close enough to threaten his household, he loses a few breaths from shouting for his favorite candidate, and requests the medical expert to look into the matter and avert the danger. And the expert serenely complies, though the task assigned him may seem as hopeless as the calling of Promethean fires from heaven.

If the great, kindly, impressible, yet generous public, could appreciate the preliminary research, toil and danger that preceded the astounding triumph, they would not fail to hold in higher respect the quiet, unassuming men who labor so faithfully in the cause of humanity and science.

Dr. Carroll, of the American Yellow Fever Commission, submitted to a test of being bitten by an infected stegomya mosquito, and, though his life was for many days despaired of, he recovered from the resulting sickness. He was a skeptic when the test was made, and hardly appreciated the imminence of his danger. Not so, Dr. Lazear. On the day he bared his arm to receive the fatal infection, it was announced that Carroll would die. As brave a soldier as ever wore the uniform of our country, who had volunteered to undergo the test, was already dead. Lazear was fully informed; but the supreme moment had come when the truth was to be established and mankind freed from the dominion of a grizzly terror. He was too chivalrous to avoid a test to which his collegaue had submitted, and too devoted to science to leave any room for doubt. He cherished no illusions. He entertained no doubts. He calmly looked death in the face—and held out his arm. *And he died!* The devotion of his act is as deep as the foundations of the earth, as high as the heavens, as wide as the universe, and as lasting as eternity.

As the light of the sun is reflected from the planets, I am fain to believe that some rays that flash from the brow of Calvary were caught and reflected back from the countenance of that dying physician. So far as I know, gentlemen, no monument has been erected to Lazear.

If the State and the public fail to erect a monument to this man, who, like Jim Bledsoe, of the Prairie Bell, "died for men," can you reasonably expect that they will erect a monu-

ment to Dr. Cochran, the great organizing and constructive force in Alabama medicine? His work, though durable and immensely important, did not have the dramatic features of Lazear's. The world did not pause and hold its breath to watch the result, what time he labored. His work, when compared to Lazear's, reminds me of the ceaseless labors of the coral polyp, which win fringing continental areas from the sea, compared to those cateclysms of Nature which heave up mountain ranges. Therefore, I repeat, if Cochran is to be honored by a suitable memorial, the work must be done by this Association.

I shall not detain you to speak of the reasons that caused Dr. Cochran to be marked out for this distinguished honor. The wisdom of the Association in making the selection has never been questioned. If we are to honor any man let us honor Jerome Cochran, for he, more than any man, before or since his day, stood for The Medical Association of the State of Alabama.

Notwithstanding the discouraging report to which we have just listened, Mr. President, let us make another effort. The great man we seek to honor taught us how to succeed in everything we attempt. Let us learn one more lesson from his life example. Let us frame and pass some sort of resolution referring this matter back to the County Societies, and urge them to make another effort to build this monument. Let us solicit individual subscriptions from members. Let us not even despair of outside assistance. The public is preoccupied and thoughtless, rather than indifferent. Perhaps the city in which the statue is to be located will consent to help. Civic pride may promote the construction of a noble and enduring work of art.

Then, should our utmost efforts fail, I will confess to a keen and lasting disappointment. I will feel that the Association has missed an opportunity to honor one of its greatest members, and has bowed to the unjust and discriminating verdict which consigns the tombs of great doctors to neglect. Yet, I shall remember that mankind has often failed to reward and honor its greatest benefactors, else, Socrates would not have been forced to drain the contents of a poisoned goblet, and the hero of Marathon to end his days in a debtor's prison. I shall recall with sorrow that in all earth's history, there has been but one perfect man—and Him they nailed upon a tree.

Dr. Sims, of Talladega: I must confess that I have not heard much of this. I do not charge this Committee with neglect of duty at all, but my friend, Dr. Welch, says that it has

been up in our Society, but I do not recollect anything about it. I am heartily in favor of a monument to Dr. Cochran, and I think this Committee ought to be continued, and that it should work it up a little more heartily, and I believe we will get the subscription.

Dr. Gaines, of Chambers: I am very sorry that my county did not appear in the list given in by the Committee, and I am sorry that it has never been mentioned in any of our meetings. If the county has ever been assessed for any amount, I do not know it, but at the present time I have the honor to be one of its officers, and I will pledge you to-night, that my county will pay any assessment, or I will pledge you one dollar from each of the members of the Chambers County Society, and we will take pleasure in carrying out any plan that may be suggested.

Dr. McMahon, of Lawrence: I want to present that (hands bill to the Secretary) individually to the Association for the Jerome Cochran monument. I come from a county where there are not many doctors, but I will try to do my duty.

Dr. Wheeler, of Madison County: It was not my fortune to be present when this movement was put on foot, and I think that the reason this Committee has not done anything in the way of collecting is because they have made no effort to collect. We have not heard of it in my county. I am not authorized to say this, but I feel assured in saying it, that Madison County stands ready to pay her part, whatever it may be. Whenever we can find a man authorized to collect it, we will pay it; we have passed a resolution to that effect, and we feel that while we are poor and cannot pay much, we are going to pay our part, and I feel doubly assured that there is not a man in the great State of Alabama that will not do as much. I know that Dr. Sanders has a great deal to do—the Committee has not done any work—that is the reason it has not got any money. I think the plan adopted is a very good one, and will be a very successful one, but must be pushed to make anything out of it.

Dr. Pride, of Madison County: I wish to endorse what Dr. Wheeler says. If we find out what our assessment is, it will be paid. I never knew that there was an assessment for Madison County, but if they will let us know what our assessment is, I assure the Committee we will pay every cent of it.

Dr. Sanders: My hopes for the future in regard to the Cochran Monument are very much brightened; it is inspiring to hear the sentiments expressed on this subject to-night. In

behalf of the Committee, however, I regret to be under the necessity of furnishing evidence which will convict some of the speakers of not having read the volumes of "Transactions" of this body, as they have annually appeared in print. Those volumes cost a great deal of work—brain work—and cost a good deal of money. They contain, annually, full accounts of all our doings—business, scientific, and *monumental.* The assessments against the counties of the State for the Cochran Monument are all printed in that volume; you will find them there. In addition to that, the Committee prepared the strongest appeals which they could find words to express, and mailed those appeals to all of the doctors of the State, which evidently must not have been read by some of the gentlemen who have spoken. It sent additional appeals to the officers of the county societies. It prepared receipt books, with stubs attached, blanks from which could be torn off easily, and advised the officers of the societies to keep a strict record of each contribution as received, and to furnish the donor with a receipt for it. The Committee has done all of these things, has sent out more than one appeal, and yet it seems that many of the gentlemen have never been informed as to the plans of the Committee, or what it has done! But, I am willing for the Committee to stand convicted of neglecting its duty if the societies will only come up promptly and contribute their assessments. I am willing that the Committee shall be considered as having failed to any extent if we only get the means with which to erect the monument, and before I take my seat, I desire to remind you all of an occasion that occurred in Selma the year after the death of our lamented leader, Dr. Cochran. One evening during our annual meeting, memorial addresses were delivered to the memory of Dr. Cochran, both by members of the profession and by laymen. The citizens of Selma were invited to be present, and responded freely to the invitation. A minister delivered one of the addresses, in which he spoke of having met Dr. Cochran on one occasion whilst traveling on a train. Entering into conversation with him, he said: "I found he knew more about theology than I did," and pronounced him a man of unusual learning on all subjects. A prominent lawyer of Selma delivered one of the addresses, and a fervid tribute it was. He knew Dr. Cochran well, and in his eulogy these words were used: "Were Alabama to pay the debt she owes Cochran, she would bankrupt her treasury." Could stronger words be used? Were I asked to name the citizen of Alabama, past or present, who has done most to advance the interests of the people of the State, I would

answer, Jerome Cochran. Tell me of a man who has formulated a scheme calculated to do so much for the people of Alabama as Cochran's public health scheme. He was a pioneer in this work. Since his death, letters have been received at the office in Montgomery asking for his writings, inquiring about his life, and some of the inquirers have pronounced him a pioneer, the ablest man on the subject of medical organization and the construction of public health systems that has ever lived in this country. His reputation in this way ranks very high. Suppose the judicial system of this State had been in an utterly chaotic condition, such as the public health system was, and the organization of the medical profession of the State was; and suppose some great jurist had risen up and formulated a system pronounced by the legal fraternity of the State as faultless, what would have been the fame of such jurist? His name would ring from one end of the State to the other, and a monument worthy of such a man would long since have risen to do honor to the State and to the people who erected it.

Mr. President, and gentlemen, not to detain you longer, it was my purpose to ask the Association to discharge the Committee, and adopt some other plan, and if what has been said by some of the gentlemen stands unchallenged, they deserve to be discharged, and possibly in disgrace. Not that I am indisposed to do what I can to advance this cause, but feeling that others can accomplish more than the present Committee has been able to do, I would ask that the present Committee be discharged, and that another Committee be created, with one member in each county, who will make personal efforts to canvass his county and to raise the necessary funds. Perhaps another Committee, appointed on a broader scale, could do better work.

Dr. Bell: I move that the present Committee be continued, and that, in addition, an Auxiliary Committee, to consist of one member from each county, be appointed by the President of the Association to press the collections.

Dr. Moody: I do not think it would be fair and just to close this subject at its present status without saying a word or two from my own personal knowledge. It so happens that my business relations have thrown me into considerable intimacy with some of the members of this Committee, and I can speak from personal knowledge of the deep disappointment of that Committee at the slothful and sluggish response of the county societies. Gentlemen, this happens from your failure to read our Transactions. It happened that some years ago a necessity

arose for me to consult some high officials in this Association upon a certain matter, and two, whom I consulted, displayed such absolute ignorance of the subject presented to them that I asked if they had read the Transactions, and both of them confessed that they had not. Gentlemen, the Committee which was to execute an ordinance that had been adopted, had never read the report of the Board of Censors! I suspect that were I to ask those gentlemen present who had read last year's Transactions from beginning to end to raise their hands the showing would not be entirely satisfactory. The magnificence of Jerome Cochran was too great for us to take it all in at once, for, like a great mountain, we must have the perspective of distance before we can realize its magnificence. The young members of the Association who may perhaps feel inclined to smile a little at the enthusiasm of the older members over the achievements of Cochran will see the day when they will wonder at his great achievements. This is not the only monument to great men which has been slow in being erected. Look how long the City of Mobile was in erecting the monument to Admiral Semmes, the one man above all others of whom they have felt proud, and yet it stands in everlasting bronze to honor him and to honor those who erected it. Wider than the fame of Admiral Semmes shall be the fame of Jerome Cochran, whose glory it was to conserve human life.

Dr. LeGrand: I want to say with reference to the Committee that I do not think that they ought to be criticised, but the plan is not a good one. Men are all alike. If you want to carry out this project as instituted, you must go directly to the doctors. If you merely send a circular, it will do no good; so that is the reason we have not gotten up enthusiasm. I think if the men in each County will take up the matter and get up enthusiasm, it will be a success. Dr. Sanders came up to Jefferson County and made a talk, and the Medical Society subscribed six hundred dollars. I was appointed on the Committee to raise that money; we have raised part of it, and placed it in bank. We did not know whether we should put it in bank or send it to the Committee. I will say further that to make this a success in a reasonable time, the doctors must take an interest in it and get up enthusiasm. When enthusiasm is aroused in the Jefferson County Society, I believe it will contribute a thousand dollars. I hope the enlarged Committee will be appointed.

The Chair: And the question is upon the motion that the present Committee be enlarged by the appointment of an Auxiliary Committee, composed of one from each County Society, to assist in this work; all who favor this motion will signify by saying aye.

This motion was unanimously adopted.

Dr. Sanders: To appoint that Committee by tomorrow would involve a good deal of time. If the President can make the appointment all well, but there are certain men who are better fitted to do that kind of work than others, hence the wisdom of taking time to select the best men.

Dr. LeGrand: I think the thing to do is for the President to appoint the Committee and take the chances. These men that are here have got this thing on their minds, and in my opinion they are the best men to appoint.

The Chair: The chair is of the opinion that Dr. Sanders is right, and the Chair would very gladly have been relieved of the responsibility. We will have a great deal of work to do tomorrow, and we will have to work hurriedly. At the same time, the motion has been adopted.

Upon motion of Dr. Moody, the Association adjourned to meet the following morning at 8:30 o'clock.

Immediately after adjournment, the members repaired to the German Relief Hall, where the Annual Banquet was served.

THE BANQUET.

When the called meeting of Thursday evening adjourned, the President announced that the members would proceed forthwith to the German Relief Hall, where the Annual Banquet was to be served.

Here, arranged in the shape of a rectangle, were tables, capacious enough to comfortably accommodate the large crowd in attendance. These tables were tastefully decorated, and loaded with dishes of the choicest and most appetizing nature. Nor was there a dearth of a variegated assortment of bottles, the presence of which the toast-master announced was, in the main, intended to be ornamental, though, in case of dire need, they might be pressed into service, but only on a doctor's prescription. It is needless to add that no great while elapsed before every doctor in the hall,—even the sedate President—took up the art of prescription writing. A singular thing, too,

was noted: Each doctor, as if to prove the innocuousness of his own concoction, would order his prescription to be hastily filled, and then, with a smile of utter complacence, empty the entire contents into his own alimentary canal; thus disproving, beyond all question, the old adage that a doctor will not take his own physic. Thus went on, for some time, this pleasurable task of prescription-writing and prescription-taking—of course, sandwiching in between the liquids, whenever practicable, many solids of every description and flavor.

When, however, it became manifest that a physiologic effect was being had throughout the entire body, the toast-master, Dr. Bondurant, arose and announced that, however great might be the physical enjoyment of the occasion, there was in store for them a still greater intellectual treat. To attempt to picture the wit and humor displayed by the toast-master as he introduced the several speakers; or to attempt to describe in what a happy and appropriate manner each speaker responded to his toast, would require a more facile pen than the writer possesses. It is safe to add, however, that each member present at this banquet will ever look back upon it as affording for him one of the most charming evenings of his life. In every detail it was a rare success.

MORNING SESSION, APRIL 22d.

Promptly at 8:30 A. M. the Association was called to order by President Cameron.

Dr. Rogers, of Birmingham, moved that the privileges of the floor be granted to Dr. Harper, of Selma, for a few minutes in order to permit him to report a very interesting case which occurred in his practice sometime ago.

The motion was adopted, whereupon, Dr. Harper proceeded to report an interesting and instructive case, the account of which, together with the discussion thereon, will be found in Part II of this volume.

At this point Dr. Howell, of Dothan, moved a reconsideration of the action of the Association at the evening session of yesterday authorizing the President to appoint an auxiliary committee consisting of one member from each county of the State to co-operate with the original committee of three appointed to raise funds for the Cochran Monument.

Dr. LeGrand, of Birmingham, asked the mover to explain why he had made the motion, and added that this seems an important matter about which no delay should be permitted.

Dr. Howell replied that he could explain in a very few words. A man can be found in each county of the State who, if appointed on this auxiliary committee, will take charge of this work in his county and make it a success, whilst there are others who, if appointed, will make it a failure. The President feels that he has not the time now to select proper men for this work, therefore, is unwilling to make hasty appointments, as he would be compelled to do.

Dr. Bell, of Bibb county, said that as the original mover of the motion last night his desire was to have the Committee appointed at once, so that the members of it, as well as of the Association, could go home full of enthusiasm and push this matter as it should be done, but since hearing the President's objection to appointing a committee now, he would be perfectly willing to vote for a reconsideration of the action taken last night, in so far as it imposes on the President the duty of appointing this auxiliary committee.

Dr. Howell's motion for reconsideration, having been seconded, was adopted.

Dr. Howell then moved that the action taken at the evening session of yesterday be so amended as to require the original and existing Committee on the Jerome Cochran Monument to appoint the Auxiliary Committee, to be composed of one member from each county society of the State.

This motion was adopted.

Dr. Morris, of Birmingham, said that several papers on the programme had not been read either by title or otherwise, the authors of them being absent when called. These papers had simply been passed, hence they are still on the programme, without any action having been taken with reference to them.

Dr. Harper, of Selma, moved that the papers referred to be read by title.

President Cameron suggested that possibly some of the authors of the papers in question might now be present, and as some time may elapse before the Board of Censors is ready to report, these gentlemen, or some of them, might be allowed to read their papers.

Dr. Harper, of Selma, said that many members desire to complete the morning session in time to leave on a train that departs at 1 o'clock, and if other papers are read this will be impossible. He therefore moved that the remaining papers on the programme be read by title. This motion was adopted and the papers were read by title.

Dr. Moody, of Bailey Springs, said that Dr. Coulbourne, of Birmingham, is here with a paper which was not on the programme, and moved that this paper be read by title. Dr. Coulbourne is present and will give the title.

Dr. Coulbourne said that he would like to explain the status of his paper. He came to the meeting expecting to present his views on the subject of which this paper treats in a discussion of a subject that was on the programme, but as the gentleman who was to present the paper on the subject was absent, he did not have the opportunity to express his views, therefore he had written the paper to which Dr. Moody referred during his attendance upon the meeting. If permitted to do so, he would complete his paper after reaching home, and place it in the hands of the Secretary for publication.

The motion of Dr. Moody to permit Dr. Coulbourne to do this was seconded and carried.

President Cameron said that whilst we are waiting for the Board of Censors to appear with its report, he would, under the rules of the Association, call upon any members to submit reports of any interesting cases that have appeared in their practice. He announced, therefore, that reports of cases are now in order.

Dr. Stovall, of Jasper, said that he would avail himself of the opportunity given to report a case that had occurred in his practice, and whilst nothing new would be presented, yet he hoped that the relation of the chief facts in the case would not be without value.

He said that the text-books warn the country practitioner not to undertake intubation in children, but he desired to take issue with this warning, and to say for the encouragement of country practitioners, that they can and should undertake intubation.

In September last he received an urgent call to visit a child fourteen miles from his office, receiving no information in regard to the nature of the case except that the child was hardly expected to live until he could reach it. Upon arriving he heard the child breathing with great difficulty, and therefore knew before entering the room that likely some obstruction of the larynx existed. Upon investigation of the case he diagnosed diphtheria. Not having carried his intubation case with him, he was compelled to send for it, and also for some anti-toxin. The messenger was gone six hours, and when he returned a dose of anti-toxin of four thousand units was promptly administered, after which the intubation tube was inserted. After the tube was in place a considerable quantity of mucus was expectorated from the air passages. Finally the child fell into a

comfortable sleep and slept fairly well the remaining part of the night. The next morning at 8 o'clock a second dose of antitoxin (three thousand units) was administered. Instructions as to feeding and managing the child in all respects were given and I left. Upon my visit the next day (Saturday) I found the child doing well. The following Tuesday I returned and removed the tube. The respiration was good, and after waiting two hours I left. The same evening the respiration became worse. On Wednesday morning I was sent for, but when I arrived the respiration was better again, and I did not deem it necessary to replace the tube.

I feel thoroughly satisfied that the life of that child would have been lost had I not resorted to intubation. Had I advised that the child be carried to Birmingham, or to some of the larger centres for the operation to be done, I do not believe the child could have stood such a loss of time. I assert, therefore, that when a country practitioner is confronted with such a case as I have reported, rather than sit by and see the child die, he should attempt the operation of intubation. I did not find it a difficult operation to do, having had occasion to look the subject up a short time before. I thought I understood the description of the operation as given, so I attempted it, and, as the sequel showed, with a happy result.

I desire to say that country practitioners should equip themselves for doing an operation of this kind, as when needed it may often be a question of life or death.

Dr. Coulbourne, of Birmingham, said: I am glad the gentleman has reported the case. I have the profoundest respect and admiration for the country doctor. Often he is placed in emergencies of the gravest responsibility, and if he be conscientious he will prepare himself for meeting these emergencies. Sometimes he is in sole charge of the lives of the people of his community, and does not have the opportunity of obtaining quick consultation with a brother doctor, therefore, the country doctor deserves great praise for what he achieves. To do intubation in a child is a most difficult thing, and should be done by one who is skilled in such work. One of the great difficulties likely to be encountered is that the tube may at any time become obstructed, and in the nature of things a country doctor cannot always be within calling distance. I know of a child that died from obstruction of the tube in Birmingham. How much more likely is this to occur in the country where the doctor is sometimes miles away. In addition to this danger, the

placing of the tube in position is a most difficult thing to do, too difficult, I believe, for a man to undertake who has not prepared himself well for the work, or who has not had experience with it. I very much doubt, therefore, the policy of country doctors undertaking the operation of intubation under the conditions and circumstances that generally surround them.

Dr. Stovall said: I expected that somebody would say what Dr. Coulbourne has said about this case. A couple of doctors in my town felt as Dr. Coulbourne has expressed himself when in charge of an urgent case, and very soon they had a dead child on their hands, for which they were much blamed. Why a man declines to undertake an operation like intubation in the face of a grave emergency, I do not know. Other men could do as well as I did. I had no special training in the operation. I saved the child's life, and certainly that was better than sitting by and seeing it die. If you will study the subject you can, and will, do the operation whenever confronted by an emergency that demands it.

Dr. Sanders, Chairman of the Board of Censors, having arrived, the President announced that it would now be in order to hear the report of that Board, whereupon, Dr. Sanders proceeded to read the following report:

THIRTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF CENSORS, INCLUDING REPORTS OF THE STATE BOARD OF EXAMINERS, AND OF THE STATE COMMITTEE OF PUBLIC HEALTH.

The Board begs to submit the following report:

Revision of the Minutes of 1903.

The Board is glad to be able to state that no errors, except a few unimportant typographical ones, appear in the minutes of the last meeting of the Association, as printed in the volume of Transactions of that year.

The President's Message.

After a pleasant and rosy allusion to Mobile and her future, the President points out some difficulties that have been encountered in obtaining such legislation as is needed to perfect the public health system of the State, suggesting as he proceeds some ways in which the work might be promoted.

He then speaks of the great aims of the Association, and of the courageous and valuable work that has been done to promote these aims.

Under the head of Medical Legislation, he recommends that an emergency fund of from $500.00 to $750.00 be created and placed at the disposal of the President and Senior Censor to meet any wants that may arise.

Without setting aside any particular or specified amount, the committee proposes that the spirit of the President's recommendation be carried out by the adoption of the following ordinance:

Be it Ordained by The Medical Association of the State of Alabama: That during the intervals of the meetings of the Association no expenditure of the funds of the Association, or any part thereof, shall be made, except upon the authority and by the consent of the President and the Senior Censor.

The President then calls attention to certain criminal practices of which disreputable members of the profession are sometimes guilty, and recommends that efforts be made to so amend our law regulating the practice of medicine as to provide that our State Board of Censors shall investigate any charges of criminal conduct that may be made against a doctor, and if such doctor shall be adjudged guilty his license shall be revoked.

A law already exists under which a doctor can be arraigned for conduct of the kind alluded to. This law is administered, as other laws are, by the courts of the country. Inasmuch as a board of doctors would not be deemed competent judges of the admissibility of evidence, or the proper forms of conducting a trial,—especially one for a criminal offense,—so as to do neither the State nor the accused any injustice, the board is of the opinion that it would be unwise to ask the legislature to grant the power suggested.

When a doctor has been convicted by the courts of the country for the crime mentioned, it might then be well for the law to provide that his license shall be revoked, but the board is of the opinion that it would be deemed a gross violation of a man's constitutional rights to permit this to be done after a trial conducted by a board of doctors. Should such a doctor as the President alludes to hold membership in a County Society, he can be tried for a violation of the ethics of the profession, and if adjudged guilty, can be expelled, and debarred from professional fellowship. That is as far as our power of inflicting

punishment should go, and we feel sure is as far as the State will permit it to go. The board, therefore, feels compelled to advise that this recommendation be not endorsed.

In discussing our County Boards of Examiners, the President recommends that in each examination by such boards the papers be sent up to the Senior Censor, and that if deemed by him and by the member of the State Board residing nearest to his official headquarters not of sufficient excellence to entitle the applicant to a certificate of qualification, one be not granted. The papers in *all* examinations by county boards are now, and have always been, required to be sent up to and reviewed by the State Board. The rule contemplates that these examination papers shall be promptly sent up from the county boards, but not infrequently more or less delay occurs. In such cases it would be unfair to keep the applicant waiting for a second investigation of his papers, seeing that the Chairman of the Board, the Senior Censor, might be absent on official business, as, also, might the member of the board residing nearest be away from home, etc. Besides, if we have county boards at all we must trust them, else, they would properly decline to do any work, or to assume any responsibility whatever.

These boards must be held up to a good standard of efficiency by criticizing them when their work becomes too slack, and this the State Board has never neglected to do. For the reason assigned, and others that might be given, the Board feels compelled to decline endorsement of this recommendation.

The President next discusses "Reciprocity," and recommends that steps be taken to put it into operation.

Several years ago the Association expressed itself on this subject, and to the effect that whilst it is desirable to establish reciprocal relations with other States whose standards are equivalent to ours, yet, in order to do this our law would require amendment. Until it becomes judicious to ask for an amendment to our law, we are powerless to establish reciprocity with any State. For this reason, therefore, no immediate steps can be taken to carry the President's recommendation into execution.

The President next discusses inequality of representation of our county societies, and instances two societies, one with 165 and the other with 8 members, both being entitled to two delegates each. From one standpoint this might appear to be an inequality, but many arguments can be adduced to counteract this impression. Whilst Jefferson County sends only two

delegates to a meeting, she may send thirteen counsellors, and whilst Greene sends, or may send, two delegates, she has no counsellor.

Were the ratio of one delegate to ten members—suggested by the President—adopted, it is easy to see how a few of the larger societies could combine and control both the policy and offices of the Association. Were this done, dissatisfaction would soon arise and disintegration of our organization result. The board, therefore, finds itself compelled to dissent from this recommendation.

The President next recommends that a standing committee of nine—one from each congressional district—be created to nominate Counsellors. The Board sees no serious objection to increasing the Committee from five, its present number, to nine; but it is of the opinion that to make it a standing one, would be a mistake. Were the members of this committee known in advance, as they would be, or at least six of them, were it made a standing one, it is easy to see how they might be flooded with applications for counsellorships, a situation that might often prove embarrassing. To save the members of the committee this embarrassment, the present policy of appointing this committee during the meeting seems the best.

The President's recommendation, therefore, to increase the membership to nine, is endorsed, but not to make it a standing committee.

The Reports of the Vice-Presidents.

Both of these reports possess the merit of being considerably shorter than the old style of report. They also possess other and much higher merits. They present the information they contain in a classified and tabulated form, which is a great improvement on the old style of reporting.

Further, they show that the Vice-Presidents have been industrious and active, their service having borne fruit.

The Association is unquestionably due them a very cordial vote of thanks for their year of service.

The expressed intention of the Junior Vice-President to keep close watch over some of the counsellors in his division, as to their loyalty to the cause, is believed to be a scheme likely to lead to good results.

Report of the Secretary and Book of Rolls.

The report of the Secretary is adequate and in good order, and the Book of the Rolls is written up to date, so far as the information could be obtained.

Report of the Committee of Publication.

This report is in proper order and is entitled to approval.

Report of the Treasurer and Book of Accounts.

The report of the Treasurer has been carefully audited by a sub-committee of the board, and having been found correct, approval is recommended.

The Book of Accounts is neatly and carefully kept, and upon a plan likely to guard against errors.

The Accounts of the State Health Officer.

The accounts of the State Health Officer were carefully examined, and found correct, vouchers having been furnished for each item of expenditure.

The Roll of Correspondents.

The name of Dr. Samuel Lloyd, of No. 12 West Fiftieth Street, New York, has been proposed as a member of the Roll of Correspondents.

Dr. Lloyd's high and deserved standing in the profession, together with the fact that he attended the meeting of this Association in 1900, and presented a valuable paper upon an important and practical subject, entitle him to be placed on the Roll of Correspondents. The Board so recommends.

With this addition, the Roll would stand as at the last revision.

Delinquent County Societies.

At the last meeting of the Association the following named county societies (six in number) were found totally delinquent: Geneva, Greene, Madison, Randolph, Washington, and Wilcox. Two of these societies, namely, Madison and Randolph, very rarely, if ever, appeared on the delinquent list before. The probability is that in this instance their appearance on the list was the result of accident, or of the force of circumstances, for

which they could scarcely be held responsible.

The other four named counties have, we regret to say, frequently appeared on the delinquent list. Earnest efforts have been made to arouse these counties up to the full performance of their constitutional obligations.

Offices for County Boards of Health—Ordinance in Relation thereto.

The Board begs to submit the following ordinance:

Be it ordained by The Medical Association of the State of Alabama, That County Societies are hereby advised and urged to make application to their respective County Officials to have offices assigned them in the County Court House, or other suitable place, on the ground that they are the legal Boards of Health of their counties, and, therefore, are entitled to the same consideration in this respect as is accorded to other county officials.

Be it further ordained: That County Societies are advised and urged to provide proper facilities in the way of desks, books, and filing cases, in which to preserve their charters, registers, books, blanks, etc., and in which to file all official papers, correspondence, etc.

This ordinance is self-explanatory and requires no comment. The proposition that our county boards of health are entitled to be provided with offices by their respective county officials, is self-evident and will be conceded without argument. This right has been largely overlooked in the past, but should without further delay be asserted and urged. In counties in which the board of health holds its meetings in a city, or in a town of considerable size, it would be fair for the county and city, or town, to unite in providing quarters for the County Board of Health, on the ground that it not only acts for the county, but also for all cities and towns therein. It is hoped that the County Medical Societies will act promptly upon the suggestions contained in the above ordinance.

Not only should proper quarters be assigned to County Boards of Health, but they should be supplied with adequate facilities for preserving their record books and for filing all official papers, documents, etc. By a full and judicious representation of the rights of county boards of health in the respects mentioned, it is believed that the county, city and town authorities can very generally be induced to comply with the demand made.

Official Papers Should Be Transferred to Successor.

The Board begs to submit the following ordinance:

Be it ordained by The Medical Association of the State of Alabama, That whenever a county, a city, or a town health officer is succeeded by another official, it shall be the duty of the former to transfer to the latter all books, papers, blanks, etc., then in his possession and belonging to the office from which he retires.

Heretofore, the obligation expressed in the above ordinance has been largely neglected, that is, in many instances health officers, when succeeded by other officers, have failed to transfer to their successors such books, blanks, documents, etc., as were in their possession, thus rendering it necessary for the State Board to furnish a new supply of these articles. This wastefulness is unnecessary and inexcusable, and obviously entails upon the State Board expense that could be easily avoided. It should be remembered that the appropriation made to the State Board is meagre at best, therefore, all improvidence and wastefulness should be scrupulously avoided.

Registers, when full, Should Be Filed in Probate Office.

The Board begs to submit the following ordinance:

Be it ordained by The Medical Association of the State of Alabama, That whenever the register of births and deaths, and that of infectious diseases kept by a county, city, or town health officer has been filled or exhausted, it shall be the duty of said county, city, or town health officer, then in charge, to deposit said register of births and deaths, or of infectious diseases, in the probate office of the county, taking receipts therefor, and filing them.

These registers contain valuable information, and should always be deposited in the place provided by the county for its records. Suppose such records had been deposited in every county of the State, from the time of its organization as a county up to the present, what valuable history they would contain! It is hoped, therefore, that the duties herein imposed upon health officers will never be neglected.

Term of County Health Officer.

The Board submits the following ordinance:

Be it ordained by The Medical Association of the State of Alabama, That county boards of health (county societies), are advised and urged to adopt ordinances fixing the term of office of their respective health officers, but, in so doing, not to fix it at a shorter period than three years.

The reasons for the adoption of such an ordinance are obvious. The better acquainted a health officer becomes with his duties, and with the doctors and midwives of his county, the more efficient can he be.

Legislation Obtained.

Since our last meeting the legislature has amended, reconstructed, and provided for the enforcement of the laws relating to the public health, those relating to quarantine having been reconstructed and systematized by the legislature of 1898-99.

All of this may be set down to the credit of this Association, as it was achieved through its efforts.

Formerly, our health and quarantine laws were more or less crude, unsystematic, and incoherent, having grown up under legislation enacted at various times and under changing conditions. Under the reconstruction referred to, we are glad to say that these laws now form a clear, consistent, and coherent set of statutes, of which we have reason to be proud.

To obtain the *enactment* of laws is one thing, to *enforce* them is another thing. However wise and just laws may be, unless rigidly and impartially enforced they will necessarily be nugatory and valueless.

The enforcement of these laws depends largely upon the members of this Association. They are made the advisers of the State, the counties, and the municipalities upon all public health and quarantine questions, and if their advice be accepted and acted upon by the proper authorities, then, the members of this Association become the executors of the law.

Having sought and obtained the enactment of the laws referred to, an imperative obligation rests upon the members of this Association to make diligent effort to see that these laws are executed with fidelity and impartiality.

In congratulating ourselves upon the achievements mentioned, we regret to state that the legislature saw proper to seri-

ously impair the effectiveness of the public health laws by withholding adequate remuneration for the health officers of the counties. To keep order in a county requires the services of an adequately remunerated sheriff and deputies, so, to keep health in a county, requires the services of an adequately remunerated health officer and assistants.

The one is just as essential as the other, and whenever the people learn that the greatest aim of this organization is to build up a public health system which shall stand ready to be set into efficient operation whenever and wherever needed, it is confidently believed that they will give it all the aid in the way of legislation it needs or asks.

Whilst the remuneration provided by the present law for county health officers is meagre and inadequate, indeed, absurdly so, yet, it is hoped that the men who undertake to do this work will be inspired by the traditions of the profession to give their time and skill more for the cause than for any pecuniary consideration that may accrue to them, trusting to the next legislature, or to some future one, to repair a manifest injustice.

A copy of the public health laws as they now exist was, shortly after the legislature adjourned, sent to every member of this Association, and, also, to every practicing physician in the State. A copy is also appended to this report and made a part of it.

Along with the copies distributed, the following circular letter was issued:

Office of the State Board of Health,

Montgomery, Ala., Nov. 20, 1903.

To the Officers and Members of The County Medical Societies:

With this is enclosed a copy of the new public health laws enacted by the recent Legislature.

You are urged to read these laws very carefully and to repeat the reading until you thoroughly understand them. They impose duties upon every doctor in the State of which no one of them can afford to be ignorant. They also impose duties upon midwives and citizens in regard to which every doctor should be competent to give information. They impose special duties upon committees of Public Health (Boards of Censors), and upon Health Officers, county and municipal. These officials are to be the executors of the law in their respective counties. They are expected to take pride in both knowing and enforcing the law, in so far as the power of enforcement lies in their hands.

When any of the infectious diseases named in section 13 appear in a county, it will be seen by reading the law that it becomes the duty of the county or municipal health officer, as the case may be, to notify in writing the county or municipal authorities of the presence and extent of prevalence of the disease, and to accompany such notification with recommendations as to what should be done in order to control the outbreak. When the authorities so notified furnish the means, or assume responsibility for expenditures, necessary to combat the spread of the disease, then, the medical officials become the executors of their own recommendations, and should see that they are wisely and vigorously enforced.

Health Officers, county and municipal, are reminded that the committees of public health of their respective county societies are their advisers in all public health work that may devolve upon them, and they are urged to seek advice from these committees at frequent intervals and on all suitable occasions.

In order to do efficient public health work, every county society should be provided with a competent, discreet, and energetic health officer. Any county societies that are not so provided should without hesitation retire the incumbents and succeed them by suitable men, and should do this at once, without waiting for the expiration of their terms of office. Any county society has the power to retire its health officer whenever it deems such a course proper.

The vigorous and efficient enforcement of the present laws will not only result in protecting, in large degree, the health and lives of our people, but will strengthen the organization of the medical profession in this State, and reflect great credit upon it.

Each member of a county medical society should feel it to be his privilege and duty to do all he can to justify and achieve the great aims for which the profession is organized in this State.

It is earnestly hoped that all will work harmoniously together to make the public health system of Alabama a model, and thus vindicate the wisdom and great foresight of its founder—Jerome Cochran.

It is much regretted that owing to influences that cannot be now mentioned the section providing salaries for county health officers was not permitted to stand in its original shape. Whilst the remuneration provided is inadequate, it is hoped that no member of a county society who accepts the position of health officer will fail to discharge fully and faithfully every duty that devolves upon him. If this be done in every county nothing is more certain than

that the next Legislature will so amend the law as to provide adequate compensation for county health officers.

Fraternally,

W. H. SANDERS, *State Health Officer.*

At later dates the following circulars were issued:

To the Presidents of the County Societies:

Dear Doctor—As it becomes necessary to put the new public health laws into vigorous execution, every county should be provided with an efficient Health Officer. If your county is not already so provided, I urge you to call a meeting of your Society at an early date and elect the very best man in the county who is available for the position.

In calling a meeting for the purpose mentioned it would be necessary to state the object in the notices sent to the members.

Please act in this matter *promptly* and let me know who the Health Officer of your county is. If you already have one with whom your Society is satisfied, send me his name at once; if you have not one, call a meeting in the way advised and furnish me the name of the new officer. If you are not now the President of your County Society, please transmit this letter to the President. It is of the utmost importance that we be furnished *as soon as possible* with the name of the Health Officer of your county.

Very truly yours,

W. H. SANDERS, *State Health Officer.*

January 7, 1904.

Office of the State Board of Health,

Montgomery, Ala., March 1, 1904.

To the Members of the Medical Association of the State of Alabama:

Your attention is again called to the public health laws enacted by the recent Legislature, copies of which have been sent you.

It is of vital importance that these laws be judiciously, wisely, and rigidly enforced.

They impose duties upon every doctor, midwife, and head of a family in the State. Naturally, the doctors are expected to be better informed about these laws than any other class of people, therefore, they should at all times be ready, not only to discharge the duties imposed upon them, but to inform others of what their duties under these laws are. Have you read and re-read them until you feel conscious of understanding them? If you have not, you are

urged to do so at once, and not to feel satisfied until you put yourselves in a position to render intelligent help in carrying them into execution. As an organized body, we asked the Legislature to enact these laws; now we should feel in honor bound to make a faithful effort to enforce them. Have you reported to your respective county health officers all of the births and deaths that have occurred in your practices? Have those of you who occupy the responsible positions of members of the Board of Censors aided your County Health Officer to exterminate infectious diseases from the county, if such be present? Have you met from time to time and assisted him in his work by your counsel and advice? Have you seen whether your County Health Officer has given such attention to the jail, the poor house, and other public institutions of the county as the law directs? Have you informed yourselves as to whether or not your County Health Officer sends up regular and full reports to this office? These are some of the things which your position as members of the Board of Censors gives you the right to supervise.

Another matter is entitled to and should receive your vigorous attention. Are there any illegal doctors in your county? If so, they should be dealt with by law, either by procuring their indictment by the grand jury or by prosecuting them yourselves. Since the masterful and able opinion rendered by Justice J. R. Tyson of the Supreme Court, last year in the case of Bragg (Osteopath) v. The State of Alabama, there can be no doubt as to the result of the prosecution of an unlicensed doctor in this State. In pronouncing that opinion, the Court, through Judge Tyson, rendered a conspicuous service, no less to the people than to legitimate and scientific medicine in the State. A copy of that opinion is herewith sent you. Read it carefully and you will no longer hesitate in proceeding against any unlicensed physician who may be in your county.

Looking forward with much pleasure to our forthcoming annual session, in Mobile, I hope the meeting will prove to be the largest, the most useful, and enthusiastic in the history of the Association.

Very truly,

W. H. SANDERS, *State Health Officer.*

Office of the State Board of Health,
March 22, 1904.

Dear Doctor—In your capacity as Health Officer of your county, grave responsibilities rest upon you. You are an officer of the law, and are expected to supervise and direct the execution of the public health laws of the State in your county. To do this most judi-

ciously and vigorously requires definite knowledge on two points:

1. The provisions of the health laws of the State.

2. The best methods of carrying them into execution.

The former may be obtained by reading the health laws very carefully; the latter will be greatly promoted by interchanging views with other health officials, engaged in similar work. A most favorable opportunity for such interchange of views will be afforded by the forthcoming meeting of the State Medical Association, to be convened in Mobile on the 19th prox. You are urgently requested to be present at that meeting, a similar appeal being made to every other County Health Officer in the State. If all will respond, an opportunity for analyzing the public health laws of the State and for discussing the best methods of executing them will be afforded, such as never occurred before. I hope you will make an extra effort to respond to this invitation, as during the sitting of the Association a special meeting of the Health Officers of the counties will be called, with the view of discussing questions that vitally concern them, and the people of their counties. Such a meeting will unquestionably bear good fruit, and it is earnestly hoped that you will be present. Very truly yours.

W. H. SANDERS, *State Health Officer.*

Transportation of the Bodies of Deceased Persons.

Section 20 of the public health laws provides that the State Board of Health shall prescribe the rules and regulations under which the bodies of deceased persons may be brought into, or transported through, the State; and, also, the rules and regulations under which such bodies may be transported from one county to another county in this State.

In order to prescribe such rules it will become necessary for the State Board to correspond with the American Association of General Baggage Agents, and the Association of Embalmers and Undertakers, it being obviously necessary to make our rules harmonize, as far as possible, with those of other States.

It has not been practicable to do this heretofore. The Board, therefore, recommends that it be granted authority to formulate the rules with power to put them into immediate operation, subject, however, to the approval of this Association at its next meeting.

New Edition of the Book of the Rules.

After much delay the Board is pleased to be able to announce that the way is now open for the issuance of a new edition of the Book of the Rules. It was not wise to issue this new edition until we could get our public health laws reconstructed and amended. That having now been accomplished, and other necessary preliminary work having been done, the Board recommends that it be authorized to have the new edition published as early as is practicable.

The Board proposes a change in the title of the book, and suggests that it be called: A Digest of The Medical Association of the State of Alabama. That title would be shorter than the present one, and would, it is believed, express more accurately the real character of the book.

In preparing the manuscript of the new edition of the Book of the Rules for the press, the Board recommends that it be authorized to make such changes in the verbiage and punctuation as will clearly improve the text, provided that in no instance shall the intended meaning be altered, and to omit such matter as may be omitted, without impairing the value of the book.

New Charters.

Several years ago the Association resolved to issue new charters to all of the county societies, this conclusion having been reached on account of the charters of some of the societies having been lost.

Several questions of importance would be involved in carrying out this resolution. One is that it would destroy, so far as our register of county societies annually published in the Transactions is concerned, all distinctions as to priority of organization among the societies. Naturally, those societies that were earliest organized are proud of their antiquity, and justly so. Were new charters issued it would reduce them all, so far as age is concerned, apparently to the same level, and thus deprive those societies earliest organized of the credit of priority.

Other questions are involved in this matter which have been referred to the attorney of the Association, and until these matters can be thoroughly investigated from a legal standpoint, as well as from all other standpoints, the Board recommends that the question of the issuance of new charters be laid on the table, from which it can be taken whenever the Association may desire.

Visit to Mexico.

Recently the health officer of Texas, Dr. Tabor, conceived the idea of making an official visit to the Republic of Mexico, for the purpose of conferring with the national, state, and municipal authorities thereof upon sanitary questions, and especially with reference to the prevention of the spread of yellow fever.

He invited representatives from the State Boards of Health of Louisiana, Mississippi, Alabama, and the United States Public Health and Marine Hospital Service, to accompany him.

Inasmuch as Alabama is vitally interested in guarding against the introduction of yellow fever into our borders, either by land or sea, and inasmuch as this Board, through its executive officer, is charged with the duty of guarding against the dangers by land, the State Health Officer deemed it wise to accept the invitation, which he did.

He reports that the party were very cordially received and was the recipient of many courteous attentions from officials and people. President Diaz accorded the party an audience and expressed warm sympathy with the objects of the mission. A conference was held with the Superior Board of Health, a national board, over which Dr. Liceaga, the most prominent physician of Mexico, presides.

In this conference President Liceaga explained to the party in a masterful and methodical way the steps that are being taken to exterminate yellow fever from those places in Mexico in which it appears indigenous, or has frequently prevailed. The campaign of extermination being waged in Vera Cruz, for instance, has been formulated by Liceaga and his board upon a very broad and comprehensive, and at the same time minute and painstaking plan. Indeed, the methods of operation prescribed were marvelously minute, systematic, and thorough, and naturally justified the hope that they would be crowned with success, and that yellow fever would be dislodged from this one of its old and conspicuous breeding places. Did time permit it would be well worth while to give a detailed sketch of the sanitary work being carried out at Vera Cruz, since it might prove a valuable object lesson to you all, as it did to the State Health Officer. Indeed, what he saw and learned in connection with a sanitary campaign projected upon a broad and scientific scale, made him feel amply repaid for the trip, and at the same time enabled him to acquire a familiarity with the lines of danger connecting yellow fever localities in Mexico with this

country, and especially with this State, such as he did not possess before.

In order to give a very brief and graphic account of these lines of danger, he will point them out by means of a crude sketch on a black-board. (Not here reproduced.)

The American Medical Association.

The Medical Association of Alabama avails itself of this occasion for expressing its cordial co-operation in the movement being made to unite the medical organizations of the various States into one co-ordinate body—the American Medical Association. To achieve a work so stupendous and desirable, demands the highest order of architectural skill in medical organization. A plan must be formulated that is founded upon correct principles, and all of its details must be worked out with scrupulous regard for the rights and obligations of all of the component parts of a complete and logical system. One fundamental principle may be laid down as the foundation stone of the entire superstructure, and in laying it down we cannot do better than to quote from the report of the Board of Censors submitted to, and adopted by, this body at its annual session in 1902.

We quote as follows:

"One important principle, however, must be kept in mind, namely, that the State organizations create the national association, and not the national association the State organizations. With this principle kept clearly in view, it is evident that the national association can have such powers only as may be conceded to it by the State organizations.

"But, for the common good it may become wise for the several state organizations to concede such powers to the national association as can be more uniformly and efficiently exercised by that body than by the state organizations acting independently of one another.

To decide what powers should be conceded and what withheld will require close study and the exercise of calm and conservative judgment."

If the principle embodied in this quotation be accepted, as it should be, the problem of organizing the profession of the entire country will be greatly clarified and simplified. Apply-

ing this principle, it will be seen that the State organizations are logically the fathers of the national organization, although the latter may chronologically antedate many of the former. It goes without saying that all local or county organizations must be under the jurisdiction of the state organizations of which they are respectively component parts. Inasmuch as the highest object of all medical organization is to create and administer a public health system, power to enforce such a system must correspond with the location of police or health powers under our civil government. These powers unquestionably reside with the states, therefore, applying the principle just stated, any health powers that can be exercised by medical men must reside in the state organizations of such medical men. State organizations, therefore, must exercise jurisdiction over local or county organizations, and must in turn concede to a national organization whatever powers it may rightfully exercise. That is to say, the State organizations are the sources from which power must descend to local or subordinate organizations and ascend to the national organization. The autonomy, therefore, of the state organizations must be rigidly mantained, else, by losing sight of the source from which power must emanate in either direction, the system would be in the position of a ship without a rudder, and would, sooner or later, unquestionably be wrecked.

These principles have been enunciated for the purpose of calling attention to some action on the part of the American Medical Association which seems to violate them.

Within the past year or more the American Medical Association has manifested an obvious disposition to exercise too much paternalism, by corresponding directly with the members of county organizations in this State. Evidently, when the national body desires to reach the profession of this State it should do so, through the State Medical Association, and not by corresponding directly with the members of this Association, however praiseworthy may be the objects sought. Whenever this Association proposes to deal with the American Medical Association, or its members, it must and should do so by means of correspondence with the officials of the American Medical Association. Likewise, whenever the American Medical Association desires to reach the organized profession of this State, it must and should do so by corresponding with the proper officials of this body. It is deemed worth while to call attention to this matter in the beginning, in order that it may be checked before the lines of demarkation betwixt the authority of the national

association and that of this body have been effaced, and before the violation of correct principles has acquired the force of precedent.

The Issuance of a Bulletin.

The Board recommends that it be authorized to issue monthly, bi-monthly, or quarterly, as circumstances and the funds at the disposal of the Board may justify, a bulletin, to be devoted to the dissemination of information in regard to the Association among its members, also in regard to the health and sanitary conditions prevailing in the State—in a word, to be devoted to the promotion of the work of the Association and the interests of the people.

Pure Food Bill.

A pure food bill is now pending in Congress. Whilst the Board has not had time to study the bill with that care which a measure of such importance obviously demands, yet so far as time has permitted examination, the Board is of the opinion that the bill is wisely and judiciously drawn, and therefore is entitled to the support of the members of this Association, and it so recommends.

The Examination of the Eyes and Ears of School Children.

A communication from Dr. Allport, of Chicago, recommending that this Association adopt a resolution recommending to county superintendents of education, and to teachers and educators generally, that they take steps to have the eyes and ears of school children under their care examined, with the view of the early detection of disease of these organs, was referred to this Board.

The Board endorses the recommendation and submits the following for adoption:

WHEREAS, Healthy eyes and ears are of vital importance in the mental and physical development of children, and

WHEREAS, Diseases of these organs are often insidious, but if early discovered may be arrested or cured; therefore, be it

***Resolved*, by The Medical Association of the State of Alabama, That County Superintendents of Education, and teachers, generally,**

in this State, are earnestly advised to adopt measures for having the eyes and ears of the children under their care thoroughly examined, with the view of discovering any diseases that may exist whilst the chances for their arrest, or cure, are more favorable than they would be at a later period.

Be it further Resolved, That Superintendents and teachers are referred to the Health Officers of their counties and cities, to specialists in the treatment of the diseases of the organs named, residing near them, or to the State Health Officer, for information as to the methods by which the examinations suggested may, with little or no cost, be secured.

A State Journal.

A communication received from Dr. Bullitt, Secretary of the Kentucky Medical Association, has been referred to the Board, suggesting the establishment of an official journal by this Association, and the appointment of a delegate to meet delegates from other states at Atlantic City, just before the assembling of the American Medical Association for the purpose of conferring with reference to securing uniformity of action in all states. Whilst this Board entertains the view that this matter might be relegated to each state organization, acting for itself, it has no objection to authorizing one, or all, of its delegates who may attend the forthcoming meeting of the American Medical Association to meet and confer with delegates from other states on the subject.

The Board, therefore, advises that our delegates, or one of them, be authorized to attend the proposed meeting.

Changes in Rules Governing Elections.

The Board recommends that Rule (1) on page 19 of the Book of the Rules be amended by inserting after the word "member," the following words: "Except a Grand Senior Life Counsellor." The rule would then read thus:

No member, except a Grand Senior Life Counsellor, shall be elected to any of the offices of the Association unless he is in actual attendance upon the session of the Association at which the election is held.

The words, "or to the College of Counsellors" having been previously stricken out, so as to render a member eligible for

election to the House of Counsellors without being present at the meeting at which he is elected. Grand Senior Life Counsellors are now released from compulsory attendance, and also from the payment of dues.

The Board is of the opinion that occasions might arise when the interests of the Association would be materially subserved by having the privilege that will be obtained by the proposed amendment, and therefore recommends its adoption.

Contingent Expenses.

The Board finds that the State Health Officer has defrayed out of his own funds certain contingent expenses for the Association, amounting to $465.00. For reasons stated and explained to the Board, the health officer declines to allow $150.00 of the amount to be returned to him, preferring to submit to the loss himself rather than see it fall on the Association.

The Board recommends that he be reimbursed for the remainder, or $315.00, and that the Treasurer be instructed to draw a check in his favor for that amount.

Dr. Carson's Application.

Several years ago Dr. S. C. Carson, then a Counsellor of this Association, by virtue of being a member of the Jefferson County Medical Society, resigned his membership of said society and removed to Hale county.

A period of several years elapsed before he became a member of the Hale County Society. During this period of non-membership with any county society, his name was, upon a revision of the Roll of Counsellors, stricken from the roll. Subsequently he became, and now is, a member of the Hale County Medical Society.

He now applies for restoration to his rank as Counsellor, and offers to pay all unpaid dues.

The Board, with the facts just stated before it, has carefully considered Dr. Carson's application, and finds that it has no constitutional right to recommend that the application be granted.

Resolution Submitted by Dr. W. W. Harper, of Selma, and Referred to the Board.

Resolved, That it shall be the duty of the President of the Medical Association of the State of Alabama to appoint a special reporter for each annual meeting who shall read a paper on "Proprietary Medicines."

The Board does not deem it good policy to recommend the adoption of the resolution in its present shape, believing that such reports, if made annually, would become tiresome and more or less uninteresting. The Board, however, is of the opinion that the subject is one of very great importance, and one that should be presented to and discussed by the Association from time to time.

The Board, therefore, submits the following ordinance, which it believes will cover the needs, and recommends its passage:

Be it ordained **by the Medical Association of the State of Alabama, That it shall be the duty of the President to appoint at proper intervals, but not annually, a special reporter to present a paper on "Proprietary Medicines."**

PART II.—EXAMINATIONS BY THE STATE BOARD FOR LICENSE TO PRACTICE MEDICINE.

Total number examined	20
Number granted certificates	7
Number refused certificates	13
Percentage of rejections	65.00

The examinations were as follows:

EARLIE ERNEST TAYLOR, three courses University of Tennessee. Certificate refused.

HOUSTON SENTELL, M. D., University of Tennessee, 1903. Certificate refused.

CURTIS ESPY, M. D., University of Kentucky, 1902. Certificate refused.

ZED CLARK LAYSON, M. D., Louisville Medical College, 1900. Certificate granted.

GEORGE ALONZO CRYER, M. D., Vanderbilt, 1903. Certificate refused. (Appeal from Colbert County Board.)

T. SEAY DEGRAFFENRIED, three courses Vanderbilt. Certificate granted.

J. WALTER ALSOBROOK, three courses Vanderbilt. Certificate granted.

DAVID COLUMBUS TURNIPSEED, three courses Tulane. Certificate refused.

WILLIAM ALVIA FINLEY, non-graduate. Certificate refused.

RADLEY MOTTE-TRILLE, M. D., Dane Medical College, England, 1896. Certificate granted. (Second examination.)

EXAMINATION OF APPLICANTS BY COUNTY BOARDS.

Total number examined	119
Number granted certificates	110
Number refused certificates	9

Autauga County Board.—Eugene Garland Northington, M. D., Tulane, 1903. Certificate granted.

Baldwin County Board.—Theodore Miller Blake, M. D., Medical College of Alabama, 1900. Certificate granted.

Argue Maybin Ferguson, M. D., Medical College of Alabama, 1903. Certificate granted.

Ernest Erastus Breland, M. D., Barnes' Medical College, 1903. Certificate granted.

Barbour County Board.—No examinations reported.

Bibb County Board.—No examinations reported.

Blount County Board.—No examinations reported.

Bullock County Board.—No examinations reported.

Butler County Board.—George William Sally, M. D., Memphis H. M. C., 1893. Certificate granted.

John Lowden Floyd, M. D., Maryland Medical College, 1902. Certificate refused.

Calhoun County Board—Willis Mills. Certificate refused.

Chambers County Board.—Levi P. Esslinger, M. D., Medical College of Alabama, 1903. Certificate granted.

Cherokee County Board.—No examinations reported.

Chilton County Board.—No examinations reported.

Choctaw County Board.—Henry Howard Mason, M. D., Medical College of Alabama, 1903. Certificate granted.

Daniel Hall Trice, M. D., Louisville Medical College, 1903. Certificate granted.

Frederick Adair McCall, M. D., University of the South, 1904. Certificate granted.

Clarke County Board.—No examinations reported.

Clay County Board.—No examinations reported.

Cleburne County Board.—No examinations reported.

Coffee County Board.—No examinations reported.

Colbert County Board.—George Alonzo Cryer, M. D., Vanderbilt, 1903. Certificate refused.

Conecuh County Board.—Walter Bozeman Moorer, M. D., Birmingham Medical College, 1903. Certificate granted.

Coosa County Board.—No examinations reported.

Covington County Board.—Esker Walter Lewis, M. D., Medical College of Alabama, 1903. Certificate granted.

Crenshaw County Board.—Bishop Marvin Kendrick, M. D., Medical College of Alabama, 1903. Certificate granted.

Manly Lamar Morgan, M. D., Birmingham Medical College, 1903. Certificate granted.

Joseph Porter Merrill, M. D., Memphis H. M. C. 1903. Certificate granted.

Cullman County Board.—John Thomas Edwards, M. D., Nashville Medical College, 1890. Certificate granted.

Harvey Leander Waid, M. D., Univ. of Nashville, 1903. Certificate granted.

Rufus Lee Milligan, M. D., Univ. of Nashville, 1903. Certificate granted.

Dale County Board.—No examinations reported.

Dallas County Board.—John William Wilson, M. D., Vanderbilt, 1903. Certificate granted.

John Neilson Furniss, M. D., Univ. of Virginia, 1901. Certificate granted.

Charles Armory Dexter, M. D., Jefferson Medical College, 1902. Certificate granted.

DeKalb County Board.—No examinations reported.

Elmore County Board.—No examinations reported.

Etowah County Board.—William Alexander Attaway, M. D., Meharry Medical College, 1902. Certificate granted.

Henry Polk Robson, M. D., Birmingham Medical College, 1903. Certificate granted.

R. Franklin Nimocks, M. D., Vanderbilt, 1900. Certificate granted.

Escambia County Board.—No examinations reported.

Fayette County Board.—Carl Belton Blackburn, M. D., Univ. of Nashville, 1903. Certificate granted.

Bryan Tucker Ashmore, M. D., Chattanooga Medical College. Certificate granted.

Franklin County Board.—Thomas Mecrorae Hughes, M. D., Chattanooga Medical College, 1900. Certificate granted.

William Thompson Cocke, M. D., Birmingham Medical College, 1903. Certificate granted.

James Aaron Thorn, M. D., Medical College of Alabama, 1903. —. Certificate granted.

Bartlett Jones Massey, M. D., Birmingham Medical College, 1903. Certificate granted.

Alonzo Graves, M. D., Sims-Beaumont College, 1900. Certificate granted.

Geneva County Board.—George Hamilton Herring, M. D., Georgia Eclectic Medical College, 1898. Certificate granted.

William Walter Smith, M. D., Medical College Louisville, 1903. Certificate granted.

Robert Bethune Warren, M. D., Medical College of Alabama, 1903. Certificate granted.

Oscar H. Fleming, M. D., Atlanta Medical College, 1894. Certificate granted.

Greene County Board.—Kennon Thetford, M. D., Univ. of Virginia, 1899. Certificate granted.

Hale County Board.—Marvin Erastus Moreland, M. D., Kentucky University, 1903. Certificate granted.

James Wesley Powers, M. D., Louisville Medical College, 1903. Certificate granted.

Henry County Board.—Henry Clayton Riley, M. D., Memphis H. M. C., 1903. Certificate granted.

Lyttleton Thomas Hutto, M. D., Medical College of Alabama, 1903. Certificate granted.

Houston County Board. Earl F. Moody, M. D., Tulane, 1903 Certificate granted.

Fletcher M. Galloway, M. D., Memphis H. M. C., — Certificate granted.

William LaFayette Mullin, M. D., Medical College of Alabama, — Certificate granted.

Augustus Bartow Cannon, M. D., Marion Sims College of Medicine, 1899. Certificate granted.

Elmer E. Mansfield, M. D., Louisville Medical College, 1892. Certificate granted.

Hugh Clifton Smisson, M. D., Chattanooga Medical College, 1897. Certificate granted.

Jackson County Board.—No examinations reported.

Jefferson County Board.—James Robertson Dawson, M. D., Vanderbilt, 1903. Certificate granted.

James Alfred Bagley, M. D., Birmingham Medical College, 1903. Certificate granted.

Wheeler Wilkinson Compton, M. D., Vanderbilt, 1903. Certificate granted.

Emanuel Oscar Stuckey, M. D., Univ. of Nashville, 1903. Certicate granted.

Frank Edmondson Nabers,. M. D.. University of Virginia, 1903. Certificate granted.

Miles Axe Copeland, M. D., Birmingham Medical College, 1903. Certificate granted.

James Alexander Watson, M. D., Birmingham Medical College, 1903. Certificate granted.

Joseph Griffin Waldrop, Memphis H. M. C., 1901. Certificate refused.

William Evans Richards, M. D., Jefferson Medical College, 1895. Certificate granted.

Frank Gaines Grace, M. D., Chicago Medical College, 1902. Certificate granted.

William Perry Duncan, M. D., Northwestern University, 1903. Certificate granted.

Richard Wilmer Hawkins, M. D., Birmingham Medical College, 1902. Certificate refused.

Robert Frazier Ashworth, M. D., Louisville H. M. C., 1903. Certificate refused.

Archie L. Oberdorfer, M. D., University of Virginia, 1901. Certificate granted.

John Paul Cowman, M. D., Birmingham Medical College, 1903. Certificate granted.

Oscar Hayden Montgomery, Birmingham Medical College, 1903. Certificate granted.

William Russell Coleman, M. D., Tulane University, 1903. Certificate granted.

Rufus Gaston Buckner, M. D., Arkansas University, 1897. Certificate granted.

Lewis Webb Crigler, M. D., Vanderbilt, 1899. Certificate granted.

Arthur Buckner Harris, University of Virginia, 1902. Certificate granted.

William Walker Long, M. D., Chattanooga Medical College, 1903. Certificate granted.

John Frank Hogan, M. D., Birmingham Medical College, 1903. Certificate granted.

William Johnson Calloway, M. D., Birmingham Medical College, 1903. Certificate granted.

Frank Campbell Smith, M. D., Birmingham Medical College, 1903. Certificate granted.

George Leonard Faucett, College Phys. & Surg., Baltimore, 1903. Certificate granted.

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Paul Lee Cocke, M. D., University of Virginia, 1899. Certificate granted.

Lamar County Board.—Bruce Blanche Mitchell, M. D., Meharry, 1903. Certificate granted.

Arthur Curtis Branyon, M. D., Memphis H. M. C., 1903. Certificate granted.

Robert Hyndman Miller, M. D., Grant University, 1902. Certificate granted.

Tilden Hendricks Young, M. D., Tulane, 1903. Certificate granted.

Robert Edward Lee Smothers, M. D., Medical College of Alabama, 1897. Certificate granted.

Lauderdale County Board.—No examinations reported.

Lawrence County Board.—No examinations reported.

Lee County Board.—No examinations reported.

Limestone County Board.—No examinations reported.

Lowndes County Board.—William O. Chitwood, M. D., University of the South, —. Certificate granted.

Macon County Board.—Carney Graham Lasiie, M. D., College Phys. & Surg., Baltimore, 1903. Certificate granted.

Madison County Board.—Thomas Henry Wilkins, M. D., Meharry Medical College, 1902. Certificate granted.

Marengo County Board.—Charles William Brasfield, M. D., Birmingham Medical College, 1903. Certificate granted.

Marion County Board.—Marvin Spears White, M. D Louisville Medical College, 1903. Certificate granted.

Marshall County Board.—Isaac Levi Dowdy, M. D., Chattanooga Medical College, 1903. Certificate granted.

Mobile County Board.—Walter Philip Dickinson, M. D., Medical College of Alabama, 1903. Certificate granted.

Joseph Warren Dossett, M. D., Medical College of Alabama, 1903. Certificate granted.

Joseph Francis Williams, M. D., Medical College of Alabama, 1902. Certificate granted.

Monroe County Board.—No examinations reported.

Montgomery County Board.—No examinations reported.

Morgan County Board.—Charles Hayes, M. D., Chattanooga Medical College, 1903. Certificate granted.

William Henry Watson, M. D., University of Louisville, 1894. Certificate granted.

Edwin Walter Dickey, M. D., Chattanooga Medical College, 1897. Certificate granted.

Walter Steele McCown, M. D., University of Tennessee, 1893. Certificate granted.

Perry County Baord.—Arthur Willis Davis, M. D., Meharry, 1903. Certificate granted.

Pickens County Board.—T. R. McClellan, M. D., Memphis H. M. C., 1903. Certificate granted.

William Lindsey Ervin, M. D., Memphis H. M. C., 1903. Certificate granted.

Pike County Board.—Ira Leonidas Johnston, M. D., Memphis H .M. C., 1903. Certificate granted.

Randolph County Board.—Lloyd Elbert Wilson, M. D., Atlanta College Phys. & Surg., 1903. Certificate granted.

William North Stevenson, M. D., Medical College of Alabama, 1903. Cer ificate granted.

Russell County Board.—Frank Hayes Johnson, M. D., Chattanooga Medical College, 1903. Certificate granted.

Sumter County Board.—No examinations reported.

Shelby County Board.—No examinations reported.

St. Clair County Board.—John Theophilus Roberson, M. D., Birmingham Medical College, 1903. Certificate granted.

Ferdinand Hammond Turner, M. D., Birmingham Medical College, 1903. Certificate granted.

John Robert Pou, M. D., University of the South, 1903. Certificate granted.

William Bloomer, M. D., Birmingham Medical College, 1903. Certificate granted.

Elmus Knowles Hanby, M. D., Birmingham Medical College, 1902. Certificate granted.

Talladega County Board.—Bishop Williams Warwick, M. D., Tulane, 1902. Certificate granted.

Tallapoosa County Board.—William M. Stewart, M. D., Georgia College Eclectic Medicine and Surgery, 1902. Certificate refused.

Blanche Bea'rice Thompson, M. D., Meharry, 1901. Certificate granted.

Samuel Dennis Motley, M. D., University of Kentucky, 1903. Certificate granted.

Tuscaloosa County Board.—Henry Pearson, M. D., Cornell University, 1903. Certificate granted.

James Ezra Cleere, M. D., Birmingham Medical College, 1903. Certificate granted.

Charles Patton Bell, M. D., University of Nashville, 1903. Certificate granted.

Walker County Board.—Mordecai Edward Doughty, Grant University, 1903. Certificate granted.

Oscar Hayes, M. D., Tulane, 1903. Certificate granted.

Washington County Board.—No examinations reported.

Wilcox County Board.—Porter King Tait, M. D., Birmingham Medical College, 1903. Certificate granted.

Henry Newell Stilphen, M. D., Tulane. 1891. Certificate granted.

Ernest Bonner, M. D., Bellevue H. M. C., 1897. Certificate granted.

Winston County Board.—Richard L. Penn, M. D., University of Nashville, 1903. Certificate granted.

Robert E. Lee Smothers, M. D., University Nashville, 1903. Certificate granted.

Minor Clinton Smothers M. D., University of Nashville, 1903. Certificate granted.

PART III.—REPORT OF THE STATE COMMITTEE OF PUBLIC HEALTH.

The State Committee of Public Health regrets to be compelled to report that small-pox continues to prevail in the State. Indeed, during the past winter this disease has prevailed to a larger extent, perhaps, than for several years previous. The same reasons as those heretofore given explain this prevalence, that is, failure on the part of a number of counties to enforce the public health laws in their territories, and indisposition on the part of many of our people to avail themselves of the protective power of vaccination. The failure of counties to enforce the laws for the protection of the public health in their territories is generally attributable to a failure on the part of the commissioners of such counties to appropriate adequate salaries for their County Health Officers. As pointed out in another part of this report, further legislation will be required to cure this evil.

Previously to the past winter, small-pox has been largely confined to our colored population, more than ninety per cent. of the cases, perhaps, having occurred among that class of our people. During the past winter, however, a much larger proportion of whites has been attacked than heretofore. It is futile to expect that the disease will disappear of its own accord. In order to get rid of it, it must be exterminated by law.

The Committee can only suggest and urge that the members of the Association will continue to promulgate the doctrine that small-pox must be controlled by the enforcement of three measures, namely, vaccination, isolation, and disinfection.

Measles has also prevailed extensively during the past winter, and in many instances the type has been severe. As this disease does not belong to those over which legal control may be exercised, the Committee is not aware of any efforts having been made in any part of the State to limits its spread.

Diphtheria and scarlet fever have not prevailed in epidemic form during the past year. Neither has any other disease of grave type.

Now that a fairly complete set of statutes has been enacted for the protection of the public health, and as the time seems ripe for adopting a complete scheme for obtaining early notification of the presence of infectious diseases, and prompt information as to the extent of their prevalence, the Committee has prepared a system of blanks, to be used by the physicians of the State in reporting upon these two points. No question can arise as to the propriety and wisdom of using these blanks, and if the members of the profession are in deep earnest in trying to build up a model public health system for the State, they will neither hesitate nor neglect to use them.

The first blank is gotten up on the style of the birth and death blanks, and will be put together in pads of suitable size.

The form of the blank and the items of information required thereon are here shown:

(Next page.)

STUB. READ CAREFULLY.

The law requires the following named diseases to be reported to the Health Officer of the County or Town, according to location: Leprosy, cholera, typhus fever, cerebro-spinal meningitis, yellow fever, scarlet fever, bubonic plague, glanders, small-pox, diphtheria, or other infectious diseases of grave character.

1. Nature and type of the disease .....

2. Name of patient ....

3. Color..... Sex..... Age.....

4. Residence—Ward..... Beat .....

5. Source of infection .....

6. What steps have been taken to prevent spread?.....

7. Remarks:.....

Date..... Reporter.....

REPORT OF INFECTIOUS DISEASES.

(Tear off this sheet and forward to Health Officer of the County or Town, according to location of case.)

1. Nature and type of the disease .....

2. Name of patient ....

3. Color..... Sex..... Age.....

4. Residence—Ward..... Beat .....

5. Source of infection .....

6. What steps have been taken to prevent spread?.....

7. Remarks:.....

Date..... Reporter.....

The stub should be filled out for the reporter's own benefit, and to enable him to keep an accurate record of his own work, which should be a sorce of great satisfaction to him. The second part of the blank is to be filled out, torn from the stub, and forwarded to the Health Officer of the city or county, as the case may be.

As an Association, we are in the habit of making high claims for our public health system. An opportunity is now offered to the members of the Association to vindicate this claim in the practical way proposed.

To have a system is one thing, to comply with and enforce it is another. It is earnestly hoped that the doctors of the State will promptly fall into the use of these blanks.

Two other blanks have been provided, one upon which a Health Officer may make a report weekly, or oftener, if necessary, and send up to the State Health Office; the other upon which County Health Officers will be expected to tabulate, monthly, a report of infectious diseases, and forward to the State Health Office.

The forms of these blanks are as follows:

REPORT OF INFECTIOUS DISEASES.

County..... City or Town.....

1. Nature of disease .....
2. Are whites, blacks, or both, affected?.....
3. Are the cases among children or adults, or both?.....
.....
4. Number of cases, and in what proximity to each other?.....
.....
5. Type of the disease and number of deaths, if any?.....
6. Source of the infection, if known? .....
7. What steps have been taken to prevent the spread of the disease? .....
8. What assistance, if any, is being rendered by the county, city, or town officials?.....
.....
9. Number of new cases since last report, and their proximity to the original location of the disease?.....
.....
10. Remarks .....

.....Health Officer.

Date.....

MONTHLY REPORT OF INFECTIOUS DISEASES.

County..... City or Town.....

Month of ....., 190..

Disease.	Cases.				Sex.		Deaths.					
	White.	Black.	Mulat'o.	Total.	Male.	Female.	White.	Black.	Mulat'o.	Total.	Male.	Female.
....	...	...	...	...	...	...	...	...	...	...	...	...
....	...	...	...	...	...	...	...	...	...	...	...	...
....	...	...	...	...	...	...	...	...	...	...	...	...
....	...	...	...	...	...	...	...	...	...	...	...	...
....	...	...	...	...	...	...	...	...	...	...	...	...
....	...	...	...	...	...	...	...	...	...	...	...	...

Remarks..... ....

.....Health Officer.

It will be readily conceded that if these blanks are used as contemplated, an amount of information as to the presence, origin, and spread of infectious diseases in the State will be collected that will prove of great benefit, both to the profession and people of the State. Since the Association has just authorized the issuance of a Bulletin, containing, among other things, the very information which the use of these blanks is expected to collect, it is easy to see that such reports and their publication in the Bulletin may prove practically useful to every member of the Association, by apprising him of conditions existing in other parts of the State. Each physician, therefore, will often be put on notice of what he may expect in his own territory by having been informed as to what has occurred and is occurring in the territories of other physicians. The old adage of forewarned is forearmed would justly apply here.

During the past year the collection of vital and mortuary statistics has progressed much as heretofore. In counties having earnest and vigorous Health Officers, and for whom the County Commissioners have appropriated something like fair salaries, the work has progressed in the main satisfactorily.

In counties in which the conditions have been less favorable, the work has been very imperfectly performed, and in those

counties in which little or no provision has been made, nothing has been done. This general classification, however, is open to some exceptions. Here and there, even where salaries have been provided, the Health Officers have failed to do the work imposed upon them by law. This cannot be allowed to continue. When a member of the Association accepts the position of Health Officer of his county, and still more, when he receives a salary, an obligation which he cannot afford to disregard, rests upon him to discharge the duties of the office. The Committee recommends that when conditions such as those just stated exist it shall become the duty of the State Health Officer to apprise the Medical Society of the county of the failure of their Health Officer to perform his duty.

A little enthusiasm on the part of luke-warm County Health Officers, and proper attention on the part of County Medical Societies, would render it unnecessary for the State Health Officer ever to perform a duty so disagreeable as that just provided for.

For the past year the following is given as the classification of counties in regard to the collection of vital and mortuary statistics:

1. Counties from which fair to good reports have been received:

Baldwin, Barbour, Bibb, Butler, Calhoun, Clay, Coosa, DeKalb, Escambia, Etowah, Fayette, Henry, Houston, Jackson, Jefferson, Lamar, Lawrence, Madison, Marion, Mobile, Monrore, Montgomery, Morgan, Pike, Randolph, St. Clair, Shelby, Sumter, Tuscaloosa, Winston. Total, 30.

2. Counties that have sent up imperfect and irregular reports:

Blount, Cherokee, Chilton, Choctaw, Cleburne, Conecuh, Covington, Crenshaw, Cullman, Franklin, Geneva, Limestone, Talladega, Tallapoosa. Total, 14.

3. From the following named counties no reports have been received:

Autauga, Bullock, Chambers, Clarke, Coffee, Colbert, Dale, Dallas, Greene, Elmore, Hale, Lauderdale, Lee, Lowndes, Macon, Marengo, Marshall, Perry, Pickens, Russell, Walker, Washington, Wilcox. Total, 23.

As has been heretofore done, County Health Officers are advised to procure the publication of their monthly reports or summaries thereof, in their county papers. Such publications, it is believed, will tend to educate the people in regard to the great objects this organization is trying to achieve, and will materially advance the cause in many ways.

FINANCIAL STATEMENT.

THE STATE BOARD OF HEALTH,

in account with *The State of Alabama.*

DEBITS.

1903.		
April 30.	To cash from Treasurer	$333.33
May 31.	To cash from Treasurer	333.33
June 30.	To cash from Treasurer	333.33
July 31.	To cash from Treasurer	333.33
Aug. 31.	To cash from Treasurer	333.33
Sept. 30.	To cash from Treasurer	333.33
Oct. 31.	To cash from Treasurer	333.33
Nov. 30.	To cash from Treasurer	333.33
Dec. 31.	To cash from Treasurer	333.33
1904.		
Jan. 31.	To cash from Treasurer	333.33
Feb. 29.	To cash from Treasurer	333.33
Mch. 31.	To cash from Treasurer	333.37
Mch. 31.	To cash returned for postage by Examination Papers account	34.26
	Total receipts	$4,034.26

CREDITS.

April 1-3.	By Health Officer's expenses to Chilton, Jefferson and Cleburne counties	$6.50
April 1.	O. E. Tyler, map for office	.98
April 4.	Postal Tel.-Cable Co. (Montgomery)	.33
April 7-8.	Health Officer's expenses to Shelby and Dallas counties	5.70
April 16.	Box rent	1.50
April 30.	Health Officer's salary (April)	208.35
April 30.	Clerk's salary (April)	58.30

May	1.	Montgomery Towel Supply Co. (towels)	1.00
May	4.	Postage	10.00
May	6.	Postal Tel.-Cable Co. (Mobile)	2.16
May	13.	Postage	10.00
May	26.	W. U. Tel. Co. (Montgomery)	3.31
May	28.	Expressage	.40
May	28.	Montgomery Advertiser (subscription)	1.30
May	29.	Postage	12.00
May	31.	Health Officer's salary (May)	208.35
May	31.	Clerk's salary (May)	58.30
June	3.	Envelopes (500 stamped 2c)	10.60
June	15.	Postage	10.00
June	23.	Health Officer's expenses to Morgan and Walker counties	7.45
June	30.	Health Officer's salary (June)	208.35
June	30.	Clerk's salary (June)	58.30
July	6.	Health Officer's expenses to Russell and Randolph counties	11.50
July	9.	Box rent	1.50
July	10.	Postage	10.00
July	11.	W. W. Haygood, (office supplies)	6.40
July	11.	W. U. Tel. Co. (Montgomery)	2.81
July	22.	Postage and 1c envelopes	10.00
July	31.	Health Officer's salary (July)	208.35
July	31.	Clerk's salary (July)	58.30
Aug.	10.	Postage for circulars	10.00
Aug.	12.	W. U. Tel. Co. (Montgomery)	2.75
Aug.	28.	Health Officer's expenses to Jackson and Madison counties	2.00
Aug.	31.	Health Officer's salary (Aug.)	208.35
Aug.	31.	Clerk's salary (Aug)	58.30
Sept.	1.	Postage	10.00
Sept.	28.	Postage	10.00
Sept.	30.	Health Officer's salary (Sept.)	208.35
Sept.	30.	Clerk's salary (Sept.)	58.30
Oct.	7.	W. U. Tel. Co. (Montgomery)	2.46
Oct.	8.	Box rent	1.50
Oct.	15.	Postage	10.00
Oct.	16.	Expressage	1.00
Oct.	28.	Health Officer's expenses to Shelby county	4.00
Oct.	31.	Health Officer's salary (Oct.)	208.35
Oct.	31.	Clerk's salary (Oct.)	58.30
Nov.	9.	Envelopes (500 stamped, 2c)	10.60

As has been heretofore done, County Health Officers are advised to procure the publication of their monthly reports or summaries thereof, in their county papers. Such publications, it is believed, will tend to educate the people in regard to the great objects this organization is trying to achieve, and will materially advance the cause in many ways.

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April 4.	Postal Tel.-Cable Co. (Montgomery)	.33
April 7-8.	Health Officer's expenses to Shelby and Dallas counties	5.70
April 16.	Box rent	1.50
April 30.	Health Officer's salary (April)	208.35
April 30.	Clerk's salary (April)	58.30

May	1.	Montgomery Towel Supply Co. (towels)	1.00
May	4.	Postage	10.00
May	6.	Postal Tel.-Cable Co. (Mobile)	2.16
May	13.	Postage	10.00
May	26.	W. U. Tel. Co. (Montgomery)	3.31
May	28.	Expressage	.40
May	28.	Montgomery Advertiser (subscription)	1.30
May	29.	Postage	12.00
May	31.	Health Officer's salary (May)	208.35
May	31.	Clerk's salary (May)	58.30
June	3.	Envelopes (500 stamped 2c)	10.60
June	15.	Postage	10.00
June	23.	Health Officer's expenses to Morgan and Walker counties	7.45
June	30.	Health Officer's salary (June)	208.35
June	30.	Clerk's salary (June)	58.30
July	6.	Health Officer's expenses to Russell and Randolph counties	11.50
July	9.	Box rent	1.50
July	10.	Postage	10.00
July	11.	W. W. Haygood, (office supplies)	6.40
July	11.	W. U. Tel. Co. (Montgomery)	2.81
July	22.	Postage and 1c envelopes	10.00
July	31.	Health Officer's salary (July)	208.35
July	31.	Clerk's salary (July)	58.30
Aug.	10.	Postage for circulars	10.00
Aug.	12.	W. U. Tel. Co. (Montgomery)	2.75
Aug.	28.	Health Officer's expenses to Jackson and Madison counties	2.00
Aug.	31.	Health Officer's salary (Aug.)	208.35
Aug.	31.	Clerk's salary (Aug)	58.30
Sept.	1.	Postage	10.00
Sept.	28.	Postage	10.00
Sept.	30.	Health Officer's salary (Sept.)	208.35
Sept.	30.	Clerk's salary (Sept.)	58.30
Oct.	7.	W. U. Tel. Co. (Montgomery)	2.46
Oct.	8.	Box rent	1.50
Oct.	15.	Postage	10.00
Oct.	16.	Expressage	1.00
Oct.	28.	Health Officer's expenses to Shelby county	4.00
Oct.	31.	Health Officer's salary (Oct.)	208.35
Oct.	31.	Clerk's salary (Oct.)	58.30
Nov.	9.	Envelopes (500 stamped, 2c)	10.60

Nov.	9.	Health Officer's expenses to Chilton and Jefferson counties	3.50
Nov.	11.	Expressage	.25
Nov.	12.	Postage for sending out Public Health Laws.	20.00
Nov.	19.	Postage	10.00
Nov.	24.	Health Officer's expenses to Chilton county..	.50
Nov.	30.	Health Officer's expenses to Cullman county'	7.00
Nov.	30.	Health Officer's salary (Nov.)	208.35
Nov.	30.	Clerk's salary (Nov.)	58.30
Dec.	4.	W. W. Haygood (office supplies)	3.95
Dec.	4.	Postal Tel.-Cable Co. (Mobile)	1.52
Dec.	19.	Postage	10.00
Dec.	24.	Brown Ptg. Co.	110.20
Dec.	31.	Health Officer's salary (Dec.)	208.35
Dec.	31.	Clerk's salary (Dec.)	58.30
Jan.	6.	Montgomery Advertiser (subscription)	7.80
Jan.	11.	Health Officer's expenses to Livingston, Ala..	3.70
Jan.	14.	Postage for blanks, etc.	20.00
Jan.	14.	Box rent	1.50
Jan.	16.	Expressage on Annual Blanks	14.40
Jan.	16.	W. U. Tel. Co. (Montgomery)	2.35
Jan.	30.	Health Officer's expenses to Mexico	65.85
Jan.	31.	Health Officer's salary (Jan.)	208.35
Jan.	31.	Clerk's salary (Jan.)	58.30
Feb.	6.	Brown Printing Co.	90.00
Feb.	18.	Expressage on Annual Blanks	3.50
Feb.	22.	Brown Printing Co	50.00
Feb.	25.	Postage for blanks and circular letters	20.00
Feb.	29.	Health Officer's expenses, Marion county....	15.00
Feb.	29.	Health Officer's salary (Feb.)	208.35
Feb.	29.	Clerk's salary (Feb.)	58.30
Mch.	3.	W. U. Tel. Co. (Montgomery)	5.24
Mch.	4.	Brown Printing Co.	50.00
Mch.	5.	Health Officer's expenses, Washington county	3.75
Mch.	17.	Envelopes (500 stamped, 2c)	10.60
Mch.	20.	Postage	10.00
Mch.	31.	Health Officer's salary (March)	208.15
Mch.	31.	Clerk's salary (March)	58.70
Mch.	31.	J. E. Maddox (sundries for office)	.90
Mch.	31.	Brown Printing Co.	41.65
Mch.	31.	Returned to Examination Papers account	191.77

Mch.	31.	W. U. Tel. Co. (Montgomery).....	.75
Mch.	31.	W. W. Haygood (office supplies).....	8.15
		Total expenditures	$4,173.58

RECAPITULATION.

By total expenditures	$4,173.58
To total receipts	4,034.26
Balance due Examination Papers account	$139.32

Examined and found correct, April 20, 1904.

E. H. SHOLL.
T. L. ROBERTSON,
Auditing Committee.

APPENDIX.

No. 542.] AN ACT [H. 322.

To amend, reconstruct, and provide for the enforcement of, the laws relating to the public health.

Be it enacted by the Legislature of Alabama, That the health laws be so amended and reconstructed, and that provision be so made for their enforcement as to read as follows:

SECTION 1.—The Medical Association of the State of Alabama, organized in accordance with the provisions of the Constitution adopted at the annual meeting of the Association held at Tuscaloosa in March, 1873, and confirmed by an act of the General Assembly, approved February 19, 1875, is hereby constituted the State Board of Health.

SECTION 2.—The County Medical Societies in affiliation with The Medical Association of the State of Alabama, and organized in accordance with the provisions of its constitution, are hereby constituted Boards of Health for their respective counties, and shall be under the general supervision and control of the State Board of Health.

SEC. 4.—The State Board of Health shall have general control over the enforcement of the laws relating to the public health; shall investigate the causes, modes of propagation, and means of pre-

vention, of endemic and epidemic diseases; shall investigate the influence of localities and employments upon the public health; shall have the right to inspect all public schools, hospitals, asylums, jails, poor houses, and other public ins'itutions of like character, also, the sources of supply and avenues of conveyance of drinking water furnished to incorporated cities and towns; shall exercise general supervision and control over the county boards of health, prescribing the rules and regulations governing said county boards in the execution of the public health laws of the State in their respective counties; and shall act as an advisory board to the State in all sanitary and medical matters.

SEC. 4.—It shall be the duty of the county boards of heal h (*a*) To supervise the administration of the health laws of the State in their respective counties, and to enforce the law for the collection of vi al and mortuary statistics. (*b*) To investigate through their committees of public health and health officers all cases of pestilential, infections, or contagious diseases, and, to enforce such measures as are provided by law to prevent the spread of said diseases and to exterminate the same. (*c*) To investigate through their commi tees of public health and health officers all nuisances to public health against which complaint has been alleged, and if such complaint be well-founded to take such steps for their abatement as the law provides. (*d*) To exercise through their committees of public health and health officers special supervision over the sanitary condi ions of public schools, hospitals, halls, opera houses, theatres and asylums ;court houses jails, work houses, prisons, markets, public dairies, and slaughter pens or houses. (*e*) To elect a health officer for the county, removable at pleasure, whose jurisdiction shall extend to all parts of the county except those par:s comprised within the municipal limits of any incorporated city or town in the county. (*f*)To elect a health officer, removable at pleasure, for any incorpora'ed city or town in the county whose existing charter does not otherwise provide for the election of a health officer, provided that a health officer of a county may be deemed eligible for the position of health officer of any one or more incorporated cities or towns in the same county, and said incorpora'ed cities and towns shall fix the salaries of their health officers respectively. (*g*) To make to the judge of probate and court of county commissioners, or board of revenue, and to the State Board of Health, by or before the first of March of each year, a full and complete report of all public health and sanitary work done in the county during the preceding year, which report must include the vital and mortuary statistics of the county, together with such other information, suggestions, and recommendations in

regard to the preservation of the public health as said board may deem proper. (*h*) To perform all such other duties as are or may be required by law.

SEC. 5.—The State Board of Health shall elect an executive officer to be known as the State Health Officer, who, under the direction of said State Board of Health, shall exercise general supervision over the county boards of health and county health officers, and shall report promptly to said county boards of health any delinquencies on the part of said county health officers which may come to his knowledge; shall keep himself informed in regard to all infectious, contagious, and pestilential diseases which may be in danger of invading the State, and shall, so far as authorized by law, take prompt measures to prevent such invasion; shall keep the Governor informed as to the health conditions prevailing in the State, and as to any diseases of an infectious, contagious, or pestilential nature which may threaten to enter the State, and shall submit to the Governor in writing such recommendations as he deems proper to prevent such invasion.

SEC. 6.—The State Board of Health shall submit to the Governor an annual report of its transactions, in which report recommendations as to needed health legislation may be embodied, and the Governor shall order such number of copies of said report printed for distribution as he may deem proper.

SEC. 7.—It shall be the duty of the health officer of a county, (*a*) To keep, under regulations prescribed by the County Board of Health, a book to be styled, "The Register of Births," in which he shall register, so far as reported to him, the sex and color of every child born in the county, the date of such birth, the name or names of the parent or parents, together with such other details as he may be required by said regulations to enter; also, a book to be styled, "The Register of Deaths," in which he shall register the names, so far as reported to him, of all persons who die in the county, specifying the date, place, sex, color, and, so far as can be ascertained, the age, and cause of death of the deceased person, together with such other details as may be required by said regulations; also, a book to be styled, "The Register of Infectious Diseases," in which book he shall register the name, age, sex, and color, together with such other details as may be required by said regulations, of all persons who may be attacked by any of the diseases enumerated in section 13 hereof. (*b*) To exercise under the direction and control of the Committee of Public Health acting for the County Board of Health, and in accordance with the health laws of the State, a general supervision over the sanitary interests of the county, and if he discover any cause of disease, or the existence of any condition

detrimental to the public health, to compel the removal thereof, so far as authorized by law; and if no authority for such removal exist, to make report of the facts to the county board of health, adding such recommendations as to special action as he may deem proper. (*c*) To make personal and thorough investigation of each case of disease suspected of being contagious, infectious, or pestilential in character that may come to his knowledge, or be reported to him, and if he decide such case to be contagious, infectious, or pestilential in character, and in imminent danger of spreading, he shall, in accordance with law, institute immediate measures to prevent its spread, and shall report the facts thereof to the judge of probate, to the committee of public health of the county board of health, and to the State Health Officer. (*d*) To obtain as needed at the expense of the county a sufficient supply of reliable vaccine virus to vaccinate without charge all indigent persons in the county who may apply at his office, or at the office of such physicians throughout the county as he may supply with vaccine virus for the purpose of aiding him in the vaccination of such persons. (*e*) To visit the county jail once each month and to make careful investigation thereof as respects the drinking water, the food, clothing, and bedding supplied to the prisoners, also, the ventilation, airspace, bathing and heating facilities, closets, drainage, *et cetera*, and when he finds any of said supplies inadequate in quantity or bad in quality, or any of said conditions unsanitary, it shall be his duty to make in writing a circumstantial report thereof to the judge of probate and county commissioners, or board of revenue, and to send a copy of said report to the county board of health and to the State Health Officer. (*g*) To discharge such other health functions as are, or may be, required of him by law. (*h*) To make to the county board of health such reports of his official transactions as said board may require. (*j*) To make to the State Health Officer whenever a contagious, infectious, or pestilential disease appears, or prevails, in the county, reports thereof, furnishing such information and at such intervals as said State Health Officer may require.

SEC. 8.—The salary of the county health officer shall be fixed by the court of county commissioners, or board of revenue, provided that in counties of fifty thousand inhabitants, or less, the annual salary shall be at the rate of $5.00 per thousand of population, or fractions thereof; in counties of more than fifty thousand and less than one hundred thousand inhabitants, the annual salary shall be at the rate of $5.00 per thousand of population for the first fifty thousand and $5.00 for each thousand in excess thereof to one hundred thousand of population; in counties of more than

one hundred thousand inhabitants the annual salary shall be at the rate of $10.00 for the first fifty thousand, $5.00 for the next fifty thousand, and $2.50 for each thousand in excess of one hundred thousand of population; the population in each instance to be computed from the last United States census. Said salary shall be paid quarterly from the county treasury by the officer legally authorized to draw warrants on said county treasury. The county health officer shall enter into bond with sufficient sureties, payable to the judge of probate of the county in a sum equal to twice the amount of his salary, with condition for the faithful performance of all such duties as are, or may be, required of him by law; provided, that nothing in this section shall be so construed as to prohibit the commissioner's courts or boards of revenue of the several counties of the State from paying the health officer of their respective counties a larger sum as salary if in their judgment they deem wise.

SEC. 9.—The county health officer shall, subject to the approval of the county board of health, appoint assistant county health officers, and so distribute them throughout the county as public convenience may require, and said county health officer may, on like approval, remove such assistant health officers at pleasure. Said assistant county health officers shall keep registers of births, of deaths, and of infectious diseases, of the same character as those required to be kept by the county health officer. Physicians, midwives, and other citizens, may report births and deaths to such assistant county health officers, instead of to the county health officer, whenever convenience clearly justifies such reports. Assistant county health officers shall be required to make to the county health officer such reports of births, deaths, and cases of pestilential or infectious diseases registered by them as the county board of health may from time to time prescribe.

SEC. 10.—It shall, within the first five days of each calendar month, be the duty of every physician and every person acting as midwife, to report to the county health officer all cases of midwifery or child-birth attended during the preceding month, or if no such case has been attended during the preceding month, to report that fact. In each such case attended, said reports shall specify as near as can be ascertained the names, places of birth, color, and race of the parents; the sex, color, race, and date of birth of child, together with such other details as may be required by the State Board of Health.

SEC. 11.—It shall, within the first five days of each calendar month, be the duty of every physician and midwife to report to the county health officer, or if convenience clearly justifies, to one of the assistant county health officers, the names of such persons

treated or attended by such physician or midwife who died within the last preceding month, giving the date, place, sex, color, and race of the deceased, and so far as can be ascertained, the age and cause of said death, together with such other details as may be required by the county board of health, and approved by the State Board of Health.

SEC. 12.—Every physician who is called to a case of infectious, contagious, or pestilential disease shall, as soon thereafter as can be done, make a report thereof to the county, city, or town health officer, according to whether the case is located in the jurisdiction of one or another of said health officers, specifying the name of the patient, the locality at which the patient may be found, the character of the disease, together with such other details as will furnish adequate information of the situation.

SEC. 13.—Whenever a disease appears in a county, incorporated city or town, suspected by any physician or midwife, or by any person on whose premises such disease appears, of being infectious, contagious, or pestilential in character, it shall be the duty of such physician, or midwife, or of such person, to report his or her suspicion to the health officer having jurisdiction over the locality where such case appears, whereupon, it shall be the duty of such health officer to thoroughly investigate and decide upon the character of such disease, in making which investigation he shall call to his aid such members of the committee of public health of the county board of health as may be available. Should doubt or difference of opinion arise as to the nature of the disease, the State Health Officer shall be summoned to assist in the investigation, and shall respond to such call as promptly as circumstances will admit. Should the disease prove to be leprosy, cholera, typhus fever, cerebro-spinal meningitis or spotted fever, yellow fever, scarlet fever, bubonic plague, glanders, small-pox, diphtheria, or of other nature believed to be gravely contagious, infectious, or pestilential, or if the disease be known to be either one of those just enumerated and be so reported, it shall be the duty of the health officer of the county, city, or town to promptly notify in writing the probate judge and commissioners or board of revenue, of the county, the mayor, or intendant and the council of the city or town, according to the location of the disease, of the presence and extent of prevalence of the disease, and said health officer shall accompany such notification with such recommendations as he may deem necessary to prevent the spread of the disease, calling into consultation with him, from time to time, the committee of public health of the county board of health. Upon receipt of such notification and recommendations said county, city or town officials, as

the case may be, shall, after consultation with the health officer in charge, and, if need be, with the committee of public health of the county board of health, appropriate such funds, or assume responsibility for such expenditures as may be found necessary to prevent the spread of the disease. If authorized to incur the necessary expense the health officer of the county, city, or town, in which the disease is located, shall, under the direction of the committee of public health of the county board of health, proceed, either separately or conjointly, to supervise the enforcement of the measures of extermination of the disease agreed upon by and between the respective officer or officers and the county, city, or town authorities concerned, whether such measures shall apply to persons sick of, or convalescing from, the disease, or to those who have been exposed thereto. All employees needed to enforce the measures of control agreed upon shall, subject to the approval of the committee of public health of the county board of health, be selected and employed by the health officer or officers having charge of the work of extermination of the disease, and shall be subject to removal by said officer or officers, likewise on the approval of the committee of public health of the county board of health. Whenever a contagious, infectious, or pestilential disease, or one suspected of being such, appears in a county, incorporated city or town, of such grave and dangerous character as to render it important and urgent that prompt and immediate measures to prevent its spread be enforced, the health officer of such county, incorporated city or town, shall have the right to institute and enforce such measures.

SEC. 14.—Whenever the health officer of a county, incorporated city or town, shall recommend to the judge of probate and county commissioners, or board of revenue, or to the mayor or intendant and council of an incorporated city or town the isolation and detention of such persons as are laboring under, or have been exposed to, any of the diseases named in section 13 hereof, it shall be the duty of said judge of probate and commissioners, or board of revenue, or of said mayor or intendant and council of said incorporated city or town, to enforce, under such penalties as said authorities may respectively prescribe, the isolation and detention of said persons, either at their own homes or at such places as may be designated by the said judge of probate and county commissioners, or board of revenue, or by the said mayor or intendant and council of an incorporated city or town, provided that said recommendations and rules for the isolation and detention of said persons shall receive the written endorsement of at least one member of the committee of public health of the county board of health.

SEC. 15.—Whenever complaint shall be made in writing to the

health officer of a county, city or town that there is on any lot, piece of ground, or in any house, or vessel, or in any pond, lake, or stream owned or maintained by a private individual or corporation any source of infection, or unsanitary condition, which is prejudical to the public health, or likely to become so, or any material or thing that is grossly offensive or indecent, it shall be the duty of such health officer to thoroughly investigate such complaint. If upon investigation said health officer shall be of the opinion that said complaint is well-founded, he shall at once notify the person responsible therefor that he must remove or abate, at his own expense, said source of infection, unsanitary condition, or grossly offensive or indecent material or thing. Should such person responsible for said nuisance refuse or neglect to obey such order, said health officer shall refer the matter to the county board of health for investigation, and either party to the contest may request the State Health Officer to be present and participate in the investigation. Should said county board of health agree with the opinion of said health officer, and should the person responsible for said nuisance or for said indecent material or thing still refuse or neglect to comply with the decision reached by said county board of health, the health officer to whom said complaint was first made shall proceed with as little delay as possible to cause said source of infection, unsanitary condition, or grossly offensive material or thing to be removed or abated at the expense of the person responsible therefor.

SEC. 16.—Whenever complaint shall be made in writing to the health officer of a county, city or town that a person, not at his own home, is afflicted with a dangerous malady, infectious or contagious in character, it shall be the duty of such health officer to thoroughly and promptly investigate said complaint. If upon investigation, said health officer shall be of the opinion that said complaint is well-founded, it shall be his duty, if his opinion be concurred in by at least one member of the committee of public health of the county board of health, to cause such person so afflicted to be removed to such place as may be provided for such cases in the county, city or town in which such person shall be found; or, if there be no such place provided for such cases, then, to such place as said health officer may deem suitable. The removal of said person shall be at the expense of said person, or, in case the person removed be a minor, then, at the expense of his parent or guardian, or if the person removed be indigent, then, at the expense of the town, city, or county in which such person is found.

SEC. 17.—If, in the attempt to perform any duty enjoined upon him by either of the two preceding sections, the said health officer

of a county, city or town shall be forcibly resisted, or be threatened with forceful resistance, said health officer shall make affidavit before the judge of probate, or any justice of the peace of said county, that said forceful resistance has been made, or threatened, whereupon, the officer before whom said affidavit has been made shall at once issue his warrant directed to the sheriff, or any bonded constable, of said county commanding said sheriff, or constable to remove or abate said unsanitary condition, source of infection, or offensive or indecent material or thing, and to remove said afflicted person, under the direction of said health officer, and it shall be the duty of said sheriff, or constable, to whom said warrent shall be delivered, to promptly execute said warrant. In executing every such warrant, said sheriff or constable shall have the right to enter by force into any such lot, piece of ground, house, or vessel, and upon any such pond, lake or stream.

SEC. 18.—The board of health of any county may, subject to the approval of the State Board of Health, prescribe the rules for the inspection of grocery houses, markets, restaurants, lunch stands, eating places, dining rooms, pantries, kitchens, and yards adjacent thereto, in said county, but no inspection of any such place shall be made until after the written consent of the proprietor, owner, or keeper of the place to be inspected has been filed with said board of health of said county, after which an inspection of said place may without previous notice be made at any hour of the day or night up to 10 o'clock p. m. Once every month said board of health of said county may publicly give notice of all places inspected during the previous month which, judged by rules as to sanitation prescribed by said board of health of said county and approved by the State Board of Health, have been found in good sanitary condition.

SEC. 19.—When complaint is made in writing to the health officer of a county, incorporated city or town, that the interment, or cremation of the body of a deceased person has been withheld or delayed until such body has become grossly offensive, or is likely to become a source of danger to the health of others, it shall be the duty of said health officer to carefully investigate the facts, and if they be such as alleged in the complaint, he shall make affidavit thereto before the judge of probate of said county, whereupon, such judge of probate shall issue a warrant addressed to the sheriff of said county commanding him to proceed forthwith at the expense of the estate of the deceased person, or if the body be that of a married woman, at the expense of her husband, or if the body be that of a minor, at the expense of the parents or guardian of such minor, or if the body be that of a pauper, at the expense of the

county, incorporated city or town, in which the deceased person may be found, to cause the body of such deceased person to be interred, or cremated, according to the wishes of the nearest relative or relatives of the deceased person; and it shall be the duty of said sheriff to whom said warrant shall be delivered to promptly execute said warrant. In the execution of said warrant the said sheriff shall have the right to summon such assistants as may be needed, provided that in the interment of the body of a person who has died of an infectious, contagious, or pestilential disease, the said sheriff shall, if practicable, summon such persons as have had and have recovered from the disease of which the deceased person died, and provided further, that nothing in this act shall apply to the body of a deceased person upon which a coroner's inquest has been or should be ordered.

SEC. 20.—The State Board of Health shall prescribe the rules and regulations under which the bodies of deceased persons may be brought into, or transported through, this State; and also the rules and regulations under which such bodies may be transported from one county to another county in this State, provided that the said State Board of Health may, in its discretion, forbid the conveyance into or through this State, or from one county to another county, in this State, of the body of a person who has died of an infectious, contagious, or pestilential disease. This section shall not be so construed as to prevent county boards of health from regulating the transportation of the dead bodies of deceased persons within their respective county limits.

SEC. 21.—Whenever it is proposed to locate a cemetery, or to extend the boundaries of an existing cemetery, the party or parties so proposing shall make written application to the judge of probate and commissioners of the county, or to the mayor and council of an incorporated city or town, according to whether said cemetery, or extension of a cemetery, is to be located in the jurisdiction of one or the other of these authorities, describing accurately the location and boundaries of the proposed cemetery, or extension of a cemetery. Before acting upon the application the judge of probate and commissioners of the county, or the mayor and council of an incorporated city or town, as the case may be, shall refer the application to the board of health of the county for investigation from a sanitary standpoint. In making such investigation the county board of health shall take into consideration the proximity of the proposed cemetery, or extension of a cemetery, to human habitations, the nature of the soil, the drainage of the ground, the danger of pollution of valuable springs and streams of water, and such other conditions and surroundings as would bear upon the

sanitary aspect of the situation. Having completed its investigation as promptly as can be done, the county board of health shall submit a report to the judge of probate and commissioners, or to the mayor and council, as the case may be, and either approve or disapprove the application. If the latter, the board shall set forth its reasons for such disapproval. Having received the report from the county board of health, the judge of probate and commissioners, or the mayor and council, as the case may be, shall either grant or deny the application, giving due weight in reaching either conclusion to the views expressed by the county board of health. Should the application be granted, the judge of probate and commissioners, or the mayor and council, as the case may be, shall issue to the party or parties making the application, and in such form as they may prescribe, a license to establish, or extend, the cemetery in question. The said license shall, upon the payment of fifty cents by the party or parties making the application, be recorded in the office of the judge of probate of the county.

SEC. 22.—When an expense has been incurred by any health officer, sheriff, or bonded constable, in the execution of the duties required by sections 14, 15, and 16 of this act, said health officer, sheriff, or bonded constable, as the case may be, shall have a right of action against the person responsible for the said expense for the recovery of the same; provided, that no more than is fair and reasonable shall be recovered as the court or jury shall determine.

SEC. 23.—That all laws and parts of laws in conflict with the provisions hereof shall be, and the same are, hereby repealed, but nothing in this act shall be so construed as to amend or repeal any State quarantine law, or any local public health or quarantine law applying to a county. Nothing herein contained shall be construed to repeal any local law regulating nuisances or the public health.

Approved October 9, 1903.

A BILL

To be Entitled An Act to Provide a System of Quarantine for this State.

SECTION 1.—*Be it enacted by the General Assembly of Alabama*, That quarantine shall be enforced by the state, by counties, and by incorporated cities and towns, in accordance with the provisions of this act.

SEC. 2. *Be it further enacted*, That wherever in this act rights are granted to, or duties imposed upon, the state board of health or a county board of health, it shall be understood that such rights and

such duties may be exercised or executed by the committee of public health respectively of said boards, as their legal and accredited agents.

SEC. 3. *Be it further enacted*, That it shall be the duty of the governor, whenever he deems it necessary, or whenever so advised by the state board of health, to proclaim quarantine, and when proclaimed, it shall be the duty of said board of health to enforce such quarantine, under such regulations as may be, from time to time, prescribed.

SEC. 4. *Be it further enacted*, That the state health officer, or any other member of the state board of health designated by him, shall have the authority to go into any place in this state for the purpose of making such investigations as shall determine the necessity for quarantine. Quarantine may be established pending such investigation, or upon receipt of authentic information of the existence of a quarantinable disease at any place from which such disease is likely to invade this state, or any portion thereof. Should permission for such investigation into the nature of a disease as herein provided for be refused by the authorities of any place outside of this state, such refusal will constitute ground for declaring quarantine against such place.

SEC. 5. *Be it further enacted*, That the quarantine authority of the state shall be paramount to that of any county, city, or town therein. All state quarantine officers and guards, upon presentation of such credentials and compliance with such regulations as may be prescribed by the state board of health, shall be permitted to pass all quarantine lines established by county, city, or town authority.

Any person who wilfully interferes with such officials and guards, when in the discharge of their duty, shall be guilty of a misdemeanor, and, on conviction, shall be fined not less than fifty nor more than one hundred dollars for each offense.

SEC. 6. *Be it further enacted*, That when proclamation of quarantine has been issued by the governor, the state board of health, acting through the state health officer, shall be authorized to make such modifications of, or additions to, the regulations originally adopted as circumstances may require, and the said state health officer shall report the same to the governor, with the reasons therefor.

SEC. 8. *Be it further enacted*, That during the existence of quarantine, state or local, the supervision of trains on all railroads, except such as have both termini in the same county, and of all steamboats and watercraft, affected by such quarantine, shall be placed under the state board of health; provided, that the quarantine authorities of any county, incorporated city or town, traversed by such roads, or to which such steamboats or watercraft shall ply, may decline to receive freight, mails, or express matter from a place infected with

a quarantinable disease, of which refusal the said authorities must give the state health officer immediate notice, and provided further, that all trains on said roads shall be permitted to pass with open windows, if the passengers and crews thereon so desire, and to stop for fuel, water, and provisions at such stations as are as remote as practicable from thickly inhabited places. Steamboats and other watercraft shall have the privilege of stopping at similar places for necessary supplies.

SEC. 8. *Be it further enacted*, That any person who makes affidavit before a quarantine officer or guard, engaged in enforcing quarantine for the protection of a place which said person wishes to enter, and who furnishes such other evidence as may be prescribed by the state board of health, that he has not since the appearance of a quarantinable disease, then existing, been in any place against which quarantine has been legally proclaimed, shall be permitted to enter or remain in the place to which he desires to go. Any person who has been in a place then under quarantine by the authority of the state, or by that of a county, city, or town with the approval of the state board of health, and who has since complied with the requirements as to detention and disinfection, one or both, prescribed or approved by the state board of health, and who shall make affidavit thereto, and furnish such other evidence thereof as said board may prescribe or demand, shall be permitted to enter, or remain in, any place in this state.

Any quarantine officer or guard, or other person, who violates the provisions of this section, shall be guilty of a misdemeanor, and on conviction shall be fined not less than fifty nor more than one hundred dollars for each offense.

SEC. 9. *Be it further enacted*, That upon the recommendation of the board of health of a county, and subject to the approval of the state board of health, quarantine may be proclaimed for a county by the probate judge thereof, or in case of his inability to act, then by the presiding officer of the board of commissioners, or of revenue, and, for an incorporated city or town, by the mayor or chief executive officer thereof; provided, that in case of emergency, quarantine may be proclaimed by said officers without such recommendation, subject, however, to the approval or modification of the board of health of the county.

When quarantine has been proclaimed for a county, incorporated city, or town, in accordance with the provisions of this section, its enforcement shall be entrusted to the board of health of the county, the orders of which board shall be executed by the health officers of the county, city, or town, respectively.

SEC. 10. *Be it further enacted*, That when a contagious or infectious disease of quarantinable nature exists in a part of a county, the remainder of the county, and any incorporated city or town

therein, may establish quarantine against the infected portion or portions of the county in accordance with the following provisions:

If a majority of the committee of public health, acting for the board of health of the county, reside in the uninfected portion thereof, such majority shall have the power of the full committee, as defined in the preceding section of this Act. If, however, a majority of the said committee reside in the infected portion of the county, then said committee can no longer act, and in that event the uninfected portion of the county may establish quarantine as follows:

The judge of probate, the president, or any two members, of the board of commissioners, or of revenue, if they, or either, reside in the uninfected portion of the county, may issue, in the order named, and upon the recommendation of the county health officer, in case he resides in the uninfected portion of the county, or in default of such residence, or on account of his absence from the county, then without such recommendation, a proclamation of quarantine against the infected portion or portions of the county, subject to the approval or modification of the state board of health.

Likewise, the mayor, or chief executive officer, of any incorporated city or town in the uninfected portion of the county, may issue, on the recommendation of the health officer of his city or town, or in the absence of such an officer, then, without such recommendation, a proclamation of quarantine against the infected portion of the county, subject to the approval or modification of the state board of health.

A proclamation of quarantine, issued in accordance with the provisions of this section by the judge of probate, the president, or any two members of the board of commissioners or of revenue, for the protection of a portion of the county, shall be enforced by the health officer of the county, provided he resides in the uninfected portion of the county, but in case he does not so reside, or in the event of his absence or disability, then such proclamation shall be enforced in such way as the officer issuing the same may direct.

A proclamation of quarantine, issued by the mayor or chief executive officer, of an incorporated city or town, in accordance with the provisions of this section, shall be enforced by the health officer of the city or town, and in case of his absence or disability, then in such way as the officer issuing the proclamation may direct.

The expense of enforcing any quarantine for a county or for a portion thereof, as provided for in this and the preceding section, shall be defrayed by the board of commissioners, or of revenue, of the county; that incurred in conducting a quarantine for an incorporated city or town shall be defrayed by the authorities of the ctiy or town declaring the quarantine.

SEC. 11. *Be it further enacted*, That every quarantine declared or established by the authority of any county, incorporated city or town in this State, together with the regulations prescribed thereunder, shall be forthwith reported to the state health officer by the health officer of the county, city or town establishing or conducting such quarantine.

Any health officer violating this section shall be guilty of a misdemeanor, and on conviction shall be fined not less than fifty nor more than one hundred dollars for each offense.

SEC. 12. *Be it further enacted*, That written authority to act as a quarantine officer for this State, or for any county, incorporated city or town therein shall entitle the holder thereof to board any railroad train—passenger or freight—and any steamboat, or other watercraft, in this State, and ride thereon, free of cost, to such place or places as the discharge of his duties may demand.

Any conductor of a railroad train—passenger or freight—or captain or other officer of a steamboat, or other water craft, in this State who violates the provisions of this section shall be guilty of a misdemeanor, and on conviction shall be fined not less than fifty nor more than one hundred dollars for each offense.

SEC. 13. *Be it further enacted*, That any person, conductor, captain, agent, or manager operating either for himself or for a corporation, a railroad, steamboat, or other conveyance, for the transportation of passengers or freight who shall knowingly transport any person or thing in violation of the provisions of this act shall be guilty of a misdemeanor, and on conviction shall be fined not less than one hundred nor more than five hundred dollars for each offense.

SEC. 14. *Be it further enacted*, That any quarantine officer or guard, or person assuming to act as such, who uses any violence, or displays a deadly weapon, for the purpose of intimidating people, and thus enforcing compliance with his orders, shall be guilty of a misdemeanor, and on conviction shall be fined not less than one hundred nor more than two hundred dollars for each offense; provided, that any legal quarantine officer or guard may, without warrant, arrest a person who attempts to violate a quarantine regulation, and carry such person either to a designated place of detention, or before an officer having jurisdiction of such offenses.

SEC. 15. *Be it further enacted*, That any person who wilfully swears or affirms falsely in regard to any material matter or thing upon any oath or affirmation authorized by this act shall be guilty of a misdemeanor, and on conviction shall be fined not less than one hundred nor more than five hundred dollars for each offense, and may also be imprisoned in the county jail for not more than six months.

SEC. 16. *Be it further enacted*, That any person who knowingly and wilfully resists arrest by any quarantine officer or guard shall be guilty of a misdemeanor, and on conviction shall be fined not less than one hundred nor more than two hundred dollars for each offense.

SEC. 17. *Be it further enacted*, That the sum of ten thousand dollars, or so much thereof as may be necessary, is hereby annually appropriated out of any sums not otherwise appropriated, to defray the expenses that may arise under the operation of this Act,—the said appropriation, or any part thereof, to be paid by the State Treasurer on warrants issued by the State Auditor, and these to be based on requisitions signed by the State Health Officer, and approved by the Governor. The state board of health shall annually make to the Governor a report by items of all expenditures incurred under this act.

SEC. 18. *Be it further enacted*, That all laws and parts of laws in conflict with this act be and are hereby repealed.

Approved February 23d, 1899.

ACTION UPON REPORT OF BOARD OF CENSORS.

During the reading of the Report of the Board of Censors, it was submitted to the Association, section by section, and acted on as follows:

The section of the Report referring to "Revision of the Minutes of 1903" was read, submitted to the Association, and adopted.

The section dealing with the first recommendation of the President, namely, that an emergency fund of from five hundred to seven hundred and fifty dollars, be created and placed at the disposal of the President and Senior Censor, to meet urgent wants that may arise, said section, including an "Ordinance" to carry out the spirit of the President's recommendation, was read, submitted to the Association, and unanimously adopted.

The section of the Report refusing to concur in the second recommendation of the President, namely, that efforts be made to so amend our law regulating the practice of medicine as to provide that the State Board of Censors shall investigate any charges of criminal conduct that may be made against a doctor, and, in case of conviction, that his license shall be revoked, was read, submitted to the Association, and adopted.

The section of the Report declining to recommend the approval of a plan proposed by the President by which the result of an examination for license to practice medicine held by a County Board, shall be determined, was read, and submitted to the Association.

Dr. Harper, of Selma, said: I am willing to move the adoption of that part of the report, but with the understanding that it will not shut off discussion. I cannot help but believe the President is right. There are some county boards in this State that are doing good work, and I am willing for that class of doctors they license to come in contact with the doctors who are already practicing medicine, but there are county boards in this State which we do not think are doing their duty, and it is very easy for a doctor to go into those counties and be admitted to practice medicine when he is not fit to practice. We have a doctor in our town, a negro, who is absolutely unfit to practice medicine, and what are we going to do? I believe the President is right.

Dr. Coulbourne, of Birmingham: I rise to uphold the views of our worthy President in the recommendation now before this body. I do not wish to make an accusation against the management of this Association; it was founded by good and honorable men who knew their business, and it has served us well, but, gentlemen, there is a flaw in this county examination business. From individual experience, I know whereof I speak. I, myself, went before the County Board in Jefferson county, having received the best education I could possibly get from any set of men. I have no accusations to make, gentlemen, but I was promptly turned down, after I had been congratulated by one of the members on my examination. I know not why I was turned down, but I was turned down. I did not stay down, gentlemen. I appealed to the State Board of Examiners, composed of worthy Seniors who founded this law. I asked Dr. Cochran why such a rigid examination was given me, for the examination was a rigid one. I went to the Board in the city of Montgomery, when I had not a dollar to spare. I could not well afford the time, and it took me a whole week to get through with that examination. Dr. Cochran replied: "Dr. Coulbourne, you have been turned down by your County Board, and in justice to your County Board, I was determined that you should pass on your merits."

Gentlemen, I do not mean to say that I was treated wrong, but if you have a county board, it is possible that they will try to keep out competition. That is one objection to the County Board system.

Dr. Sanders: I rise to a point of order. The discussion should be on the recommendation of the President, not on the general proposition as to whether county boards are good or bad. The President makes a specific recommendation, viz.,

that in examinations before county boards the papers be sent up to the Senior Censor, and if they appear, in his judgment and that of another member of the State Board, not of sufficient excellence, the certificate shall not be granted.

The Chair: I think the objection is well taken.

Dr. Coulbourne: Then I sit down.

President Cameron, having called Vice-President Howell to the Chair, said: I have no fight to make against the Jefferson County Board, or any other Board in this State that does the work that the Jefferson County Board does. It is true, they may sometimes do an absolute injustice, unintentionally, but we all know that the standard of examinations given by the Jefferson County Board is on a pinnacle above examinations made by many other County Boards of this State. My fight is against those counties which do not make a competent examination. We all know that there are counties in this State that are grossly deficient in this respect, so, I want to establish some method by which we can raise them up to the grade of the other counties in this State. We have had some sad experience of this kind in my county; we have had young men who are residents of my county, graduated by different medical colleges, and who felt that they were not competent to pass our County Board. What did they do? They went to a county just adjoining us, and passed their examinations, being judged according to a very low standard, or no standard. What are we going to do with a county of that kind? Are we going to continue to let them lower the standard of medicine in the State of Alabama? Any applicant can go to that county and get his certificate and come to any county in the State and establish himself in practice. It is certainly an injustice to the Boards of those counties that are striving to lift the standard of medical education in the State, and there are no means of making them come forward and present proper examinations, except by two methods. Now, we must do the one or the other. We must abolish every county board in the State. That is one of the methods by which we can get rid of these defective examinations. We do not want to do that. The county boards are the means of ready entrance into medicine in this State. They do not cost the medical graduate as much as it would to go before the State Board, and for this reason, and others, it is very desirable that they be retained. Now, what is the other means by which we can raise this standard? We can have a higher board. When they come up with a defective examination which the State Board considers does not entitle the applicant to pass,

let them annul the examination and send it back to them, and say, whenever you bring forward an examination that is in keeping with the laws of the State and desires of the profession, we will pass your applicant. Now, for what reason does the State Board desire to avoid adopting this method? It does not entail any change in our fundamental laws. It does not require us to do an injustice to any man, and I do not see why a revision of this examination by two members of the State Board is not desirable. I do not want to leave it to one man; but let two men revise it, and whenever they turn down an application, why, it goes down to the county board, or the applicant can come up to the State Board.

I am a little out of order, but I want to say right here that the State Board of Censors entirely misconceives my recommendation in regard to the revocation of the license of a practitioner. I did not recommend that he should be tried criminally. I said, whenever, there are professional charges against him, whenever there is a doctor in your county that knows there is another creating abortion, or who is continually drunk, why let him be brought up before his County Society and charged with these crimes, and when he is unfit to be a doctor, take his license away from him. What is being done now? A man can be sent to the penitentiary for such methods, and stay there for two years, and he can come back again and practice in the county. Should it be allowed? Certainly not. He should be deprived of his license. The same power that is given to our State and County Boards to grant license ought to allow them to revoke it whenever an applicant proves himself unworthy. The legal profession is upon the same plane. They are examined by State Boards, or the judges of this State, to practice law, but what did they do at the last legislature? They had a law enacted empowering their State Board of Legal Examiners, whenever a lawyer did anything that was at all unethical, to disqualify him to practice law in this State.

Dr. Sanders: The question under discussion is not whether county boards are good or bad, whether they ought to be abolished or retained, but the question is: Shall they send up their examination papers to the State Board, and what shall be done with them? The recommendation is that they shall send these examination papers to the Senior Censor, and that he, together with one other member of the Board, shall review them and pronounce judgment. Now, let us look into this matter practically. A man applies to a county board for examin-

ation, and in two, three, four, five or six weeks, sometimes three months, sometimes six months, those papers reach the State Board. What is to become of that man in the meantime? Now, as was pointed out in the report, when those papers come up, the Senior Censor may be away from the otnce, he might be detained away by many reasons—official business, etc. The papers are there waiting to be reviewed. The member of the State Board residing nearest to official headquarters might be absent, or sick, therefore, a considerable amount of delay might occur after the papers reach the State Board before they could be reviewed. The board does not think it wise to endorse a provision of that kind. A man would grow very dissatisfied, and his friends, too, if he had to wait all that time. How is the matter now done? The County Board decides the fate of the applicant. If adverse to the applicant, he has the right of appeal to the State Board, which board grants an entirely new examination, and upon that examination finally decides the fate of the applicant. If treated unjustly by the county board the injustice can be rectified by the State Board. But, suppose the standard of the county board is too low. The work of that board is reviewed by the State Board, and the county board is criticised. The criticisms are sent to the Board, and it is told that it has passed an unworthy applicant. Such criticisms make county boards more careful in the future. Our count. boards are improving in their work; they have been improving from the first. But for the existence of county boards, we would probably not be organized in one-half of our counties to-day. I can name county societies that do very little public health work, hold very few meetings in a year, but they do examine applicants for license to practice medicine, and if they did not have that work to do, they would fall to pieces. Now, were I asked whether county boards had ever admitted applicants to practice upon inadequate qualifications, I would say, yes. But the county boards are doing better and better work all the while, and if this improvement continues the very evils of which the gentleman complain will be cured. Then we will have gained uniform organization in every county of the State, a condition of things that does not exist in any other State of this Union, and which would not exist in this State but for the work that has been and is being done by these county boards.

Dr. Coulbourne: The gentleman is our of order. My point of order is on the ruling that he is not confining himself to the subject.

Dr. Sanders: The gentleman was allowed to discuss the general proposition as to whether the county boards were good or bad, and I was merely answering his argument, and another gentleman that spoke was allowed to speak on that phase of the subject, and I felt that I ought to say something in refutation of the positions that were assumed. So, the question is whether the President's recommendation to have these papers sent up to two members of the board —

The Chair: The chair rules that the point of order is well taken.

Dr. Harper: I move the adoption of this section of the report of the Board of Censors.

Dr. McWhorter: I second the motion, and move the previous question in order to avoid further delay.

The motion for the previous question was carried, and thereupon the section of the report, as read, was adopted.

The next section of the Report, announcing the proposition that no immediate steps should be taken to carry out the President's recommendation in regard to "Reciprocity," was adopted as read, this section being in harmony with action taken on this subject, several years ago, by the Association.

The next section of the Report, dealing with a recommendation of the President to the effect that the basis of representation of the county societies in the State Association be changed, was read and adopted.

The next section of the Report, devoted to a discussion of a recommendation of the President in regard to the Committee for the nomination of Counsellors, was read and adopted, the Board advising that a part only of the President's recommendation be endorsed.

The section of the Report devoted to "Reports of the Vice-Presidents" was read and adopted.

The sections devoted to "Report of the Secretary and Book of the Rolls," "Report of the Treasurer and the Book of Accounts," and the "Accounts of the State Health Officer" were successively read and separately adopted, as read.

The section devoted to "The Roll of Correspondents" was adopted, as read.

The section referring to "Delinquent County Societies" was adopted as read.

The sections referring to "Offices for County Boards of Health," "Official Papers Should Be Transferred to Successor," "Registers, when full, Should Be Filed in Probate Office,"

"Term of County Health Officer," each section embodying an ordinance, were successively read and adopted.

The section referring to "Legislation Obtained" was adopted as read.

The sections referring to "New Edition of the Book of the Rules," and to 'New Charters" were adopted as read.

The sections referring to "Visit to Mexico," "The American Medical Association," "The Issuance of a Bulletin," "Pure Food Bill," 'The Examination of the Eyes and Ears of School Children," "Change in Rules Governing Elections," "Contingent Expenses," "Dr. Carson's Application," and "Resolution Submitted by Dr. W. W. Harper," were successively read and separately adopted.

Part II of the Report, consisting of the following subdivisions,

(a) Examinations by the State Board for License to Practice.
(b) Examination Papers Account.
(c) The Book of the Rules Account.
(d) Examination of Applicants by County Boards,

being statistical and financial, was read by captions and summaries, and adopted.

Part III of the Report, including the following sub-divisions:

(a) Report of the State Committee of Public Health.
(b) Accounts of the State Health Officer,

was then submitted.

This part of the Report being historical and financial, the captions and summaries only were read, and it was adopted.

Upon motion, the Report was then adopted as a whole.

REVISION OF THE BOOK OF ROLLS.

The President then announced that the revision of the four Rolls would be next in order:

(1) The Roll of the County Societies.
(2) The Roll of the College of Counsellors.
(3) The Roll of the Correspondents.
(4) The Roll of the Officers.

(1) The revision of the first Roll, or that of the County Medical Societies, was then proceeded with:

The standing committee on the Revision of the Rolls, composed of the Secretary, the Senior Censor, and the Treasurer, reported three schedules of County Societies, as follows:

(*a*) County Societies that have fulfilled all of their constitutional obligations; that is, are represented at this meeting by delegates, have submitted reports, and have paid dues:

Baldwin, Barbour, Bibb, Bullock, Butler, Calhoun, Chambers, Cherokee, Chilton, Choctaw, Clay, Cleburne, Coffee, Conecuh, Coosa, Covington, Cullman, Dale, Dallas, DeKalb, Elmore, Escambia, Etowah, Fayette, Franklin, Hale, Henry, Houston, Jackson, Jefferson, Lamar, Lauderdale, Lawrence, Lee, Macon, Madison, Marengo, Marion, Mobile, Monroe, Montgomery, Pike, Russell, Shelby, Sumter, Talladega, Tallapoosa, Tuscaloosa, Washington, Wilcox.

No objection being made to the correctness of this report, the President ordered that these fifty counties be passed as clear of the books.

(*b*) County Societies partially delinquent:

Autauga, delinquent in delegates; Blount, delinquent in dues and delegates; Clarke, delinquent in report; Colbert, delinquent in delegates; Crenshaw, delinquent in delegates; Geneva, delinquent in dues; Greene, delinquent in dues and delegates; Limestone, delinquent in delegates; Lowndes, delinquent in delegates; Marshall, delinquent in delegates and report; Morgan, delinquent in report; Perry, delinquent in delegates; Pickens, delinquent in delegates; Randolph, delinquent in delegates; St. Clair, delinquent in report; Walker, delinquent in delegates; Winston, delinquent in delegates.

No objection being made as to the correctness of this report, the President ordered that these seventeen counties be passed, with the understanding that the Secretary and the Treasurer make an effort to obtain the missing reports and dues.

(*c*) County Societies totally delinquent:

None.

No objection being heard as to the correctness of this schedule, the President said: This is perhaps the first time in the history of the Association that on revision of the Roll of the County Societies no one of them was found totally delinquent. This is certainly ground for hearty congratulation, and it affords me pleasure to call attention to it. May this happy state

of affairs recur in all future revisions of the Roll, and, not only so, may the time soon arrive when no County Society will be content with less than a complete fulfillment of all constitutional obligations; that is, in being represented at every meeting by delegates, in having sent up a report and paid dues.

This completed the Revision of the Roll of County Societies, and the President ordered that said Roll shall stand closed until the next annual meeting of the Association.

(2.) THE ROLL OF THE COLLEGE OF COUNSELLORS.

The Committee on the Revision of the Rolls reported the seven schedules of Counsellors as follows:

(*d*) Counsellors clear of the books:

Grand Seniors—Andrews, Glenn; Baldwin, B. J.; Blake, W. H.; Bragg, Shirley; Cameron, M. B.; Coley, A. J.; Cunningham, R. M.; DeWeese, T. M.; Gay, S. G.; Goode, Rhett; Harlan, J. J.; Heflin, Wyatt; Hill, L. L.; Huggins, J. N.; Inge, H. T.; King, Goldsby; LeGrand, J. C.; Lowry, S. H.; Maréchal, E. L.; McCants, R. B.; Moon, W. H.; Nolen, A. J.; Parke, T. D.; Reuden, R. J.; Searcy, J. T.; Trent, P. G.; Watkins, I. L.; Whaley, L. B.; Wheeler, W. C.; Whitfield, B. W.; Wilkerson, C. A.; Wilkinson, J. E. Total, 32.

Seniors—Bell, W. H.; Bennett, B. F.; Bondurant, E. D.; Brown, G. S.; Desprez, L. W.; Dryer, T. E.; Frazer, T. H.; Harlan, A. L.; Harrison, W. G.; Hill, G. A.; Hill, R. S.; Howle, J. A.; Jones, E. S.; Jones, J. R.; Johnston, L. W.; McCain, W. J.; McEachern, J. A.; McLaughlin, J. M.; Moody, H. A.; Perry, H. G.; Riggs, E. P.; Robinson, T. F.; Sims, A. G.; Sutton, R. L.; Waller, G. P.; Whitfield, J. B.; Williams, J. H.; Wyman, B. L. Total, 28.

Juniors—Appleton, H. L.; Ard, E. B.; Bancroft, J. D.; Casey, T. A.; Fleming, P. H.; Gaston, J. L.; Goldthwaite, R.; Green, H. B.; Guice, C. L.; Harper, W. W.; Henderson, S. C.; Howell, J. R. G.; Justice, O. S.; Justice, R. L.; McLendon, J. W.; McWhorter, G. T.; Maples, W. C.; Morris, L. C.; Peerson, J. M.; Pride, W. T.; Robertson, W. H.; Schoolar, M. C.; Shivers, O. M.; Somerville, W. G.; Talley, D. F.; Tam, S. S.; Thigpen, C. A.; Welch, S. W.; Wilkinson, D. L.; Wimberley, G. B.; Givhan, E. G.; Harris, S.; Howell, S. M. C.; Pitts, R. N.; Wilder, W. H. Total, 35.

No objection being made as to the correctness of this schedule, the President ordered that the Counsellors (95 in

number), whose names had been read, be passed as clear of the books.

(*e*) Delinquent Counsellors:

(1.) In attendance:

J. M. McLaughlin.

(2.) In dues:

G. B. Wimberly.

No objection being made as to the correctness of this schedule, the President, under the rules, ordered that these names should be stricken from the Roll of the College of Counsellors, and that of this action these delinquent Counsellors shall be duly notified by the Secretary.

(*f*) Miscellaneous Counsellors:

Counsellors who resigned:

None.

(*g*) Counsellor-Elect who failed to qualify.

Thomas Northen.

No objection being made as to the correctness of this schedule, the President, under the rules, ordered that the name of the Counsellor-elect who failed to qualify, be not entered on the Roll of the College of Counsellors.

(h) Counsellors who have died since the last meeting:

R. B. McCants, Andrew Jay, A. T. Henley.

No objection being made as to the correctness of this schedule, the President said: We are grieved to hear of the death of our brother Counsellors. Let us cherish their memories in our hearts; and let their names and records be transferred to the Grand Roll of Honour.

Requiescat in pace.

PROMOTION OF COUNSELLORS.

(*g*) Grand Senior Counsellors of ten years' standing:

Huggins, Jacob; Searcy, J. T.; Trent, P. G.

No objection being made as to the correctness of this schedule, the President, under the rules, ordered that the Counsellors whose names had been read (three in number) as having served ten consecutive years as Grand Senior Counsellors, should be placed on the Roll of Grand Senior Life Counsellors, and that they be duly notified of this transfer by the Secretary.

(*h*) Senior Counsellors of five years' standing:

Bell, W. H.; Bondurant, E. D.; Brown, G. S.; Hill, G. A.; Moody, H. A.; Perry, H. G.; Riggs, E. P.; Williams, J. H.

No objection being made as to the correctness of this schedule, the President, under the rules, ordered that the Counsellors (8 in number) whose names had been read as having served five consecutive years as Senior Counsellors, should be transferred to the Roll of Grand Senior Counsellors, and that of this transfer they shall be duly notified by the Secretary.

(j) Junior Counsellors of five years' standing:

Bancroft, J. D.; Gaston, J. L.; Guice, C. L.; Henderson, S. C.; Justice, O. S.; Pride, W. T.; Welch, S. W.

No objection being made as to the correctness of this schedule, the President, under the rules, ordered that the Councellors (7 in number), whose names had been read as having served as Junior Counsellors for five consecutive years, be transferred to the Roll of Senior Counsellors, and that of this transfer they be duly notified by the Secretary.

(*k*) Counsellors-Elect:

Harris, Seale; Howell, S. M. C.; Givhan, E. G.; Pitts, R. N.; Wilder, W. H.

No objection being made as to the correctness of this schedule, the President, under the rules, ordered that the Counsellors-Elect (5 in number), whose names had been read as having signed the Counsellor's Pledge and as having paid their dues, be transferred to the Roll of Junior Counsellors, and that of this transfer they be duly notified by the Secretary.

The revision of the Roll of Counsellors was here ended, and the President ordered that said Roll shall stand closed until the next meeting of the Association.

(3.) THE ROLL OF CORRESPONDENTS.

The Committee then announced the Roll of Correspondents as follows:

Bozeman, Nathan, M. D., New York, 1889.
Garnett, A. F., M. D., Hot Springs, Ark., 1875.
Hoffman, John Richard, M. D., Athens, Ala., 1890.
Peavy, Julius Franklin, M. D., Atmore, Ala., 1899.
Norex, James Polk, M. D., Scottsboro, Ala., 1891.
Wyeth, John A., M. D., New York, 1903.

(4.) THE ROLL OF OFFICERS.

The Committee on the Revision of the Rolls announced that the next order of business is the election of officers for the ensuing year, and that the following vacancies are to be filled:

A President for one year.
A Junior Vice-President (for the Northern Division of the State) for two years.
Two members of the Board of Censors.
One State Health Officer.
An Orator, and an Alternate Orator.

No objection being made as to the correctness of this report, the President, under the rules, ordered that elections for the positions named be now held.

The result of the balloting was the election of the following officers:

President—Dr. C. C. Jones, of East Lake.
Junior Vice-President—Dr. W. H. Bell, of Hargrove.
Members of the Board of Censors—Dr. E. H. Sholl, of Birmingham; and Dr. I. L. Watkins, of Montgomery.
State Health Officer—Dr. William H. Sanders, of Mobile.
Orator—Dr. Seale Harris, of Union Springs.
Alternate Orator—Dr. B. B. Sims, of Talladega.

The Revision of the Roll of Officers was then declared ended, and the President ordered that said roll shall stand closed until the next meeting of the Association.

THE ELECTION OF COUNSELLORS.

The Committee on the Revision of the Rolls next reported eight vacancies in the College of Counsellors; whereupon, the President announced that an election to fill these vacancies was now in order. The Committee on the Nomination of Counsellors then submitted the following list of nominees:

Dr. F. A. Webb, of Calvert; Dr. W. F. Betts, of Evergreen; Dr. L. R. Burdeshaw, of Headland; Dr. J. G. Palmer, of Opelika; Dr. M. S. Davie, of Dothan; Dr. E. M. Harris, of Russellville; Dr. H. W. Blair, of Sheffield; Dr. E. M. Prince, of Coleanor.

It was then moved and carried that the Secretary of the Association be authorized to cast the ballot for the Association. This was done, and the above mentioned nominees were elected to fill the vacancies in the College of Counsellors.

The President then announced to these newly-elected Counsellors that their names would be placed on the list of "Counsellors-Elect," and if, at the next meeting of the Association, it was found that they had complied with all of the Constitutional requirements, their names would be transferred to the Roll of Junior Counsellors.

He mentioned that these requirements were as follows:

(1) The payment of dues.
(2) The signing of the Counsellor's Pledge.
(3) The furnishing to the Secretary of a brief life-history.

The President then announced that the next order of business was the installation of officers. The President, accordingly, appointed a committee of two to perform this pleasurable duty.

The newly-elected President, Dr. C. C. Jones, was escorted to the Chair and introduced to the Association.

Dr. Jones spoke as follows:

We have no time for speech-making, and I have no inclination to detain the Association, beyond expressing my appreciation of the confidence you have reposed in me. I am sure that I never expected a higher honor than the one I have just received—the Presidency of this splendid Association. I am also

persuaded that the honor does not come to me because of any distinguished attainments of my own, but rather because of the personal esteem in which I am held by most of you, and because of my long and loyal connection with this body. I am not unmindful of the responsibility you have placed upon me. I assume my duties with the determination to give the best that is in me to the work, sincerely soliciting the coöperation of every member of this Association.

Next came the Vice-President, Dr. W. H. Bell; and then the Orator, Dr. Seale Harris, both of whom, with appropriate remarks, and in graceful fashion, accepted their respective offices. The Publishing Committee regrets that no permanent record has been kept of the utterances of these gentlemen.

This completed the installation of officers.

The President then announced that the selection of a place of meeting for the next annual session was in order; whereupon, Dr. C. T. Pollard, of Montgomery, arose and extended, in behalf of the Montgomery Medical Society, a most cordial invitation to the Association to hold its next meeting in the city of Montgomery. Without hesitation, this invitation was accepted, and Montgomery was chosen as the next place of meeting.

This closed the regular order of business.

Dr. E. H. Sholl, of Birmingham, then offered the following which was unanimously adopted:

RESOLUTIONS OF THANKS.

The poetic adage that "distance lends enchantment to the view," does not obtain with reference to the present meeting of The Medical Association of the State of Alabama; quite the reverse—the nearer the view, the greater the enchantment. This meeting has not been like the receding mirage to the weary traveler in the desert, but like the real and refreshing oasis, with its towering and shading palms and bubbling springs—like the fabled fountain of Ponce de Leon, ever renewing the youth of the passing pilgrim. Toilers in a profession whose demands are ceaseless, exacting, and momentous, we come from populous centers, charming villages, and quiet country places, from rolling prairie and regal mountain, having seen in our daily rounds much of the shadows and sorrows of life; and finding here, for a time, pleasant surcease from our professional labors, we shall return to our home-duties refreshed and invigorated for the renewal of that busy life which all through our

beloved State often brings hope to the down-cast, and joy and cheer to the sorrowing heart.

This we owe to the cordial, abundant, and overflowing hospitality of The Mobile Medical Society, and to courteous attentions from the Faculty of the Medical College, and the citizens, generally, of Mobile,—all of whom have done so much to render our visit an agreeable episode, the object of the visit being, not for our own aggrandizement, but for the promotion of the welfare of every citizen of our great commonwealth.

Be it therefore Resolved, That The Medical Association of the State of Alabama, now about to adjourn, extends its sincere thanks to The Medical Society of Mobile County, to the Faculty of the Medical College, and to many of the people of Mobile for the numerous courtesies and hospitalities they have so lavishly showered upon its members.

We especially desire to thank the press of the city for full and unusually accurate reports of our proceedings, and the railroads of the State for liberal transportation rates granted the members of the Association.

We remember with delight the boat excursion on the bay, the trip to Monroe Park, the banquet, and last, but not least, the beautiful home of the Elks, freely thrown open for our entertainment, where, at a splendid reception given by The Mobile Medical Society, we had the honor and the pleasure of meeting many of the cultured matrons, beautiful maidens, and manly men of Mobile,—the whole leaving a picture on our memories that, like a golden chain, will forever bind us in happy captivity to Mobile and her people.

Upon motion, the Association then adjourned *sine die*.

REGISTRATION LIST.

During the meeting the following named Counsellors, Delegates, Members, and Visitors, appeared and registered:

GRAND SENIOR LIFE COUNSELLORS.

Sledge, W. H.....Mobile.
Stovall, A. M.....Jasper.
Jones. C. C.....East Lake.
Sholl, E. H.....Birmingham.
Ketchum, G. W. A.....Mobile.
McKittrick, A. A.....Evergreen.
Franklin, C. H.....Union Springs.
Furniss, J. P.....Selma.
Gaines, V. P.....Mobile.
Sanders, W. H.....Mobile.
Kendrick, J. C.....Greenville.
Total, 11.

GRAND SENIOR COUNSELLORS.

Blake. W. H.....Sheffield.
Whitfield, B. W.....Nauvoo.
Cameron, M. B.....Sumterville.
Wheeler, W. C.....Huntsville.
Searcy, J. T.....Tuscaloosa.
Maréchal, E. A.....Mobile.
Gay, S. G.....Selma.
Baldwin, B. J.....Montgomery.
Coley, A. J.....Alexander City.
Huggins, J.....Newbern.
Parke, T. D.....Birmingham.
LeGrand, J. C.....Birmingham.
Inge, H. T.....Mobile.
Goode, Rhett.....Mobile.
Watkins, I. L.....Montgomery.
DeWeese, T. P.....Gamble Mines.
Total, 16.

SENIOR COUNSELLORS.

Maples, W. C.....Scottsboro.
Bell, W. H.....Hargrove.

Desprez, L. W.....Florence.
Bancroft, J. D.....Livingston.
Bennett, B. F.....Louisville.
Frazer, T. H.....Mobile.
Bondurant, E. D.....Mobile.
Moody, H. A.....Florence.
Robertson, T. L.....Birmingham.
Hill, G. A.....Wynette.
McCain, W. J.....Livingston.
Perry, H. G.....Greensboro.
Whitfield, J. B.....Demopolis.
King, Goldsby.....Selma.
McEachern, J. A.....Brundidge.
Sims, A. G.....Renfroe.
Sutton, R. L.....Orrville.
Hill, R. S.....Montgomery.
Johnston, L. W.....Tuskegee.
Brown, G. S.....Birmingham.
Howle, J. A.....Eclectic
Total, 21.

JUNIOR COUNSELLORS.

Howell, J. R. G.....Dothan.
McWhorter, G. T.....Riverton.
Morris, L. C.....Birmingham.
Tam, S. S.....Mobile.
Justice, R. L.....Geneva.
Appleton, H. L.....Centre.
Shivers, O. L.....Marion.
Henderson, S. C.....Brewton.
Sims, B. B.....Talladega.
Thigpen, C. A.....Montgomery.
Heflin, Wyatt.....Birmingham.
Wyman, B. L.....Birmingham.
Harris, Seale.....Union Springs.
Robertson, W. H.....Clayton.
Jones, Julius.....Rockford
Harper, W. W.....Selma.
Givhan, E. G.....Montevallo.
Pride, W. T.....Madison.
Talley, D. F.....Birmingham.
Green, Henry.....Dothan.
Welch, S. W.....Talladega.
Total, 21.

RECAPITULATION.

Grand Senior Life Counsellors	11
Grand Senior Counsellors	16
Senior Counsellors	21
Junior Counsellors	21
Total	69

DELEGATES.

Autauga—None.
Baldwin—P. M. Hodgson, Stockton.
Barbour—W. S. Britt, Eufaula; R. L. White, Mt. Andrew.
Bibb—E. M. Prince, Coleanor; T. F. Huey, West Blocton.
Blount—None.
Bullock—T. J. Dean, Union Springs.
Butler—J. J. McCane, Chapman.
Calhoun—A. N. Steele, Anniston; W. J. Williams, Oxford.
Chambers—W. D. Gaines, LaFayette.
Calhoun—None.
Cherokee—W. S. McElrath, Cedar Bluff.
Chilton—J. T. Hayes, Clanton.
Choctaw—S. Alman, Melvin; W. H. Christopher, DeSotoville.
Clarke—L. O. Hicks, Jackson.
Clay—B. A. Stephens, Lineville.
Cleburne—S. L. Williams, Heflin.
Coffee—A. M. Ham, Curtis.
Colbert—None.
Conecuh—F. L. Tatum, Brooklyn; W. F. Betts, Evergreen.
Coosa—A. J. Peterson, Hanover.
Covington—None.
Crenshaw—None.
Cullman—M. L. Johnston, Cullman; G. Hartung, Cullman.
Dale—R. H. Norris, Charlton.
Dallas—McL. Pitts, Selma; W. H. Taylor, Central Mills.
DeKalb—W. S. Duff, Fort Payne.
Elmore—H. M. Martin, Jr., Wetumpka; E. P. Moore, Wetumpka.
Etowah—C. L. Murphree, Gadsden.
Escambia—W. L. Abernathy, Flomaton.
Fayette—T. M. Peters, Fayette.
Franklin—W. A. Gresham, Russellville.
Greene—None.
Geneva—G. W. Williamson, Hartford; M. L. Morgan, Highnote.

Hale—M. L. Malloy, Stewart.
Henry—J. R. Vann, Abbeville; L. R. Burdeshaw, Headland.
Houston—B. J. Lewis, Gordon; R. D. Blackshear, Dothan.
Jackson—Hugh Boyd, Scottsboro.
Jefferson—J. D. Coulbourne, Birmingham; J. M. Edwards, Wylam.
Lamar—J. O. Kennedy, Kennedy.
Lawrence—J. W. Fennell, Landersville.
Lauderdale—W. J. Kernachan, Florence.
Lee—J. G. Palmer, Opelika.
Limestone—None.
Lowndes—None.
Macon—P. M. Lightfoot, Shorter.
Madison—B. E. Graham, Gurley.
Marengo—J. S. Skinner, Shiloh; J. C. Christopher, Nonafalia.
Marion—W. J. McCrary, Guin.
Marshall—None.
Mobile—M. T. Gaines, Mobile; P. J. M. Acker, Mobile.
Monroe—D. R. Nettle, Peterman; C. E. Bizzelle, Monroeville.
Montgomery—S. A. Billing, C. T. Pollard, Montgomery.
Morgan—W. A. Barcliff, Hartselle.
Perry—None.
Pickens—None.
Pike—C. P. McEachern, Banks.
Randolph—None.
Russell—A. R. Allen, Oswichee.
Shelby—W. C. Williams, Shelby.
St. Clair—J. H. Mastin, Springville.
Sumter—A. D. James, York.
Talladega—W. E. Presscott, Alpine; A. L. Castleman, Sylacauga.
Tallapoosa—W. T. Langley, Camp Hill.
Tuscaloosa—A. Fitts, Tuscaloosa.
Walker—None.
Washington—L. L. Duggar, Fairford.
Wilcox—P. V. Speir, Furman; J. S. Turberville, Snow Hill.
Winston—None.

MEMBERS.

NAME.	POST-OFFICE.	COUNTY.
Hart, E. W.	Dadeville,	Tallapoosa.
Gates, W. H.	Mobile,	Mobile.
Baker, J. N.	Montgomery.	Montgomery.
Harwell, J. T.	Birmingham,	Jefferson.
Davie, M. S. Jr.	Dothan,	Houston.
Fondé, G. H.	Mobile,	Mobile.

Pugh, S. S.	Mobile,	Mobile.
Glass, P. J.	Mobile,	Mobile.
Mohar, C. A.	Mobile,	Mobile.
Henderson, W. T.	Mobile,	Mobile.
Edelman, L.	Mobile,	Mobile.
Jackson, W. R.	Mobile,	Mobile.
Bancroft, M. J.	Mobile,	Mobile.
Inge, J. T.	Mobile,	Mobile.
Owen, C. N.	Mobile,	Mobile.
Jones, D. D.	Woodlawn,	Jefferson.
Farill, J. P.	Farill,	Cherokee.
Ballard, I. C.	Leesburg,	Cherokee.
McMahon, W. I.	Courtland,	Lawrence.
Farish, L. B.	Atmore,	Monroe.
McConnico, F. H.	Montgomery,	Montgomery.
McCrummin, N. H.	Montgomery,	Montgomery.
Chamblee, Z. B.	Birmingham,	Jefferson.
Green, A. A.	Anniston,	Calhoun.
Robinson, L. D.	Montgomery,	Montgomery.
Mangum, W. W.	Eufaula,	Barbour.
Rogers, Mack.	Birmingham,	Jefferson.
Pugh, C. E.	Grove Hill,	Clarke.
Caine, V. H.	Safford,	Dallas.
Toole, A. F.	Birmingham,	Jefferson.
Lambert, G. L.	Bay Minette.	Baldwin.
McCleod, J. C.	Bay Minette,	Baldwin.
Tippin, P. H. M.	Brewton,	Escambia.
Davis, J. D. S.	Birmingham,	Jefferson.
Letcher, J. B.	Shorters,	Macon.
Trammell, J. D.	Bay Minette,	Baldwin.
Handley, E. K.	Birmingham,	Jefferson.
Lupton, F. A.	Birmingham,	Jefferson.
Howard, P. J.	Mobile,	Mobile.
Grimes, J. W.	Talladega Springs,	Talladega.
Pugh, A. S.	Grove Hill,	Clarke.
Peterson, J. J.	Mobile,	Mobile.
Hirshfield, H. P.	Mobile,	Mobile.
Jordan, W. M.	Birmingham,	Jefferson.
Killough, J. N.	Woodlawn,	Jefferson.
Rush, J. O.	Mobile,	Mobile.
Campbell, D. G.	Mobile,	Mobile.
Terrill, J. D.	Mobile,	Mobile.
Killebrew, J. B.	Mobile,	Mobile.
Wilkinson, J. G.	Catherine,	
Webb, F. A.	Calvert,	
Carson, S. C.	Greensboro,	Hale.
Gay, N. S.	Whistler,	Mobile.

Harris, E. M.	Russellville,	Franklin.
Cain, J. J.	Moorsville,	Limestone.
Bell, C. P.	Cokes,	Tuscaloosa.
McAdory, W. P.	Birmingham,	Jefferson.
Woodson, L. G.	Birmingham,	Jefferson.
Burroughs, Bryan,	Jackson,	Clarke.
Hays, Luther,	Cullman,	Cullman.
Rudolph, C. M.	Tuscaloosa,	Tuscaloosa.
Steadham, O. M.	Auburn,	Lee.

VISITORS.

NAME.	POST-OFFICE.	STATE.
Pettey, George E.	Memphis,	Tennessee.
Warren, Hobart E.	New York,	New York.
Dahlberg, C. J.	Suggsville,	Alabama.
Gavin, G. E.	Mobile,	Alabama.
Brassell, W. R.	Montgomery,	Alabama.
Bradford, B. R.	Mobile,	Alabama.
O'Gynn, John C.	Century,	Florida.
Thayer, Wm. S.	Baltimore,	Maryland.
Lathem, G. M.	Birmingham,	Alabama.
Haggard, W. D.	Nashville,	Tennessee.
Duffield, A. M.	Citronelle,	Alabama.
Rush, J. O.	Mobile,	Alabama.

SUMMARY OF REGISTRATION.

Grand Senior Life Counsellors	11
Grand Senior Counsellors	16
Senior Counsellors	21
Junior Counsellors	21
Delegates	71
Members	62
Visitors	12
Total	214

THE ROLL OF THE COLLEGE OF COUNSELLORS.

REVISION OF 1904.

THE GRAND SENIOR LIFE COUNSELLORS.

Abernathy, William Henry, Flomaton—Montgomery session.. 1875
Brockway, Dudley Samuel, Livingston—Mobile session..... 1882
Cason, Davis Elmore, Ashville—Huntsville session..... 1880
Duggar, Reuben Henry, Prairieville—Montgomery session.... 1883
Fletcher, Richard Matthew, Huntsville—Montgomery session 1881
Franklin, Charles Higgs, Union Springs—Mobile session.... 1882
Furniss, John Perkins, Selma—Mobile session..... 1876
Gaines, Vivian Pendleton, Mobile—Selma session 1879
Gaston, John Brown, Montgomery—Montgomery session.... 1875
Goodwin, Joseph Anderson, Jasper—Mobile session..... 1872
Goggans, James Adrian, Alexander City—Birmingham session 1883
Hayes, Robert Hughes, Union Springs—Huntsville session... 1880
Hogan, Samuel Mardis, Montgomery—Montgomery session... 1875
Huggins, Jacob, Newberne—Selma session..... 1884
Jackson, Robert Dandridge, Brookwood—Tuscaloosa session.. 1873
Jackson, Walter Clark, Montgomery—Tuscaloosa session.... 1873
Jones, Gapers Capehart, East Lake—Montgomery session.... 1881
Kendrick, Joel Cloud, Greenville—Mobile session..... 1882
Ketchum, George Augustus, Mobile—Tuscaloosa session..... 1873
McKittrick, Adam Alexander, Evergreen—Tuscaloosa session 1873
Michel, Richard Fraser, Montgomery—Tuscaloosa session.... 1873
Prince, Francis Marion, Bessemer—Birmingham session..... 1877
Robertson, Thaddeus Lindley, Birmingham—Montgomery.... 1881
Sanders, William Henry, Mobile—Eufaula session..... 1878
Searcy, James Thomas, Tuscaloosa—Selma session..... 1884
Sholl, Edward Henry, Birmingham—Huntsville session..... 1880
Sledge, William Henry, Mobile—Mobile session..... 1882
Starr, Lucius Ernest, Camden—Selma session 1874
Stovall, Andrew McAdams, Jasper—Mobile session..... 1882
Thetford, William Fletcher, Talladega—Montgomery session 1881
Thomas, James Grey, Mobile—Huntsville session 1880
Trent, Powhatan Green, Roanoke—Selma session..... 1884
Wilkerson, Wooten Moore, Montgomery—Birmingham session 1883

Total, 33.

THE GRAND SENIOR COUNSELLORS.

Andrews, Glenn, Montgomery—Selma session 1893
Baldwin, Benjamin James, Montgomery—Anniston session.. 1886
Bell, Walter Howard, Hargrove—Birmingham session..... 1894
Blake, Wyatt Heflin, Sheffield—Montgomery session..... 1892
Bondurant, Eugene DuBose, Mobile—Birmingham session.... 1894
Bragg, Shirley, Montgomery—Greenville session 1885
Brown, George Summers, Birmingham—Birmingham session 1894
Cameron, Matthew Bunyan, Sumterville—Selma session..... 1893
Coley, Andrew Jackson, Alexander City—Huntsville session. 1891
Cunningham Russell McWhorter, Birmingham—Selma session 1893
DeWeese, Thomas Peters, Gamble Mines—Birmingham session 1894
Gay, Samuel Gilbert, Selma—Selma session 1893
Goode, Rhett, Mobile—Mobile session 1889
Harlan, John Jefferson, Hackneyville—Montgomery session.. 1888
Heflin, Wyatt, Birmingham—Selma session 1893
Hill, Luther Leonidas, Montgomery—Montgomery session.... 1888
Hill, George Armstrong, Wynette—Birmingham session..... 1894
Inge, Henry Tutwiler, Mobile—Greenville session 1885
King, Goldsby, Selma—Selma session 1893
LeGrande, John Clark, Birmingham—Mobile session..... 1889
Lowry, Samuel Hickman, Huntsville—Greenville session.... 1885
Maréchal, Edwin Lesley, Mobile—Mobile session 1889
Moody, Henry Altamont, Bailey Springs—Birmingham session 1894
Moon, William Henry, Goodwa'er—Selma session..... 1893
Nolen, Abner Jackson, New Site—Anniston session..... 1886
Parke, Thomas Duke, Birmingham—Selma session 1893
Perry, Henry Gaither, Greensboro—Birmingham session..... 1894
Redden, Robert James—Tuscaloosa session 1887
Riggs, Edward Powell, Birmingham—Birmingham session... 1894
Watkins, Isaac LaFayette, Montgomery—Selma session..... 1893
Whaley, Lewis, Birmingham—Anniston session 1886
Wheeler, William Camp, Huntsville—Montgomery session... 1888
Whitfield, Bryan Watkins, Demopolis—Montgomery session.. 1892
Williams, John Hartford, Columbiana—Birmingham session.. 1894
Wilkerson, Charles A., Marion—Birmingham session 1890
Wilkinson, John Edward, Prattville—Montgomery session... 1892

Total, 36.

THE SENIOR COUNSELLORS.

Bancroft, Joseph Dozier, Sumterville—Mobile session..... 1899
Bennett, Benjamin Franklin, Clayton—Birmingham session.. 1899
Desprez, Louis Willoughby, Florence—Mobile session..... 1895

Dryer, Thomas Edmund, Huntsville—Birmingham sesssion.. 1898
Gaston, Joseph Lucius, Montgomery—Mobile session..... 1889
Guice, Charles Lee, Gadsden—Mobile session..... 1899
Frazer, Tucker Henderson, Mobile—Mobile session..... 1895
Harlan, Aaron LaFayette, Alexander City—Birmingham session 1898
Harrison, William Groce, Talladega—Montgomery session.... 1896
Henderson, Stephen Cory, Brewton—Mobile session..... 1899
Hill, Robert Sommerville, Montgomery—Birmingham session 1898
Howle, James Augustus—Mobile session 1895
Jones, Eli Spears, Gadsden—Selma session 1897
Jones, Julius, Rockford—Montgomery session 1896
Johnston, Louis William, Tuskegee—Mobile session..... 1895
Justice, Oscar Suttle, Wetumpka—Mobile session..... 1899
McCain, William Jasper, Livingston—Birmingham session... 1898
McEachern, John Adolphus, Brundidge—Selma session..... 1897
Pride, William Thomas, Madison—Mobile session..... 1899
Robinson, Thomas Franklin, Bessemer—Montgomery session 1896
Sims, Albert Gallatin, Renfro—Birmingham session 1898
Sutton, Robert Lee, Orrville—Mobile session..... 1895
Swann, Joseph Charles, Wedowee—Mobile session..... 1895
Waller, George Platt, Montgomery—Montgomery session..... 1896
Welch, Samuel Wallace, Talladega—Mobile session..... 1899
Whitfield, James Bryan, Demopolis—Montgomery session.... 1896
Wyman, Benjamin Leon, Birmingham—Selma Session..... 1897

Total. 27.

THE JUNIOR COUNSELLORS.

Appleton, Hugh Lowndes, Centre—Selma session 1901
Ard, Erastus Byron, Ozark—Montgomery session..... 1900
Casey, Thaddeus Alonzo, Birmingham—Selma session..... 1901
Fleming, Porter Thomas, Enterprise—Selma session..... 1901
Givhan, Edgar Gilmore, Montevallo—Talladega session..... 1903
Goldthwaite, Robert, Montgomery—Birmingham session..... 1902
Green, Henry Bolling, Dothan—Montgomery session..... 1900
Harper, William Wade, Selma—Birmingham session 1902
Harris, Seale, Union Springs—Talladega session..... 1903
Howell, John Robert Graves, Dothan—Selma session..... 1901
Howell, Samuel Matthew Crawford, Midland City—Talladega 1903
Justice, Robert Lee, Geneva—Montgomery session..... 1900
Maples, William Caswell, Scottsboro—Montgomery session.... 1900
McLendon, Joseph Wyley, Dadeville—Birmingham session.... 1902
McWhorter, George Tighlman, Riverton—Birmingham session 1902
Morris, Lewis Coleman, Birmingham—Birmingham session.. 1902
Peerson, James Madison, Florence—Birmingham session..... 1902

Pitts, Robert Newton, Montgomery—Talladega session..... 1903
Robertson, William Henry, Clayton—Montgomery session... 1900
Schoolar, Milton Carson, Birmingham—Birmingham session 1902
Shivers, Offa Lunsford, Marion—Birmingham session..... 1902
Somerville, William Glassell, Tuscaloosa—Selma session.... 1901
Talley, Dyer Findley, Birmingham—Birmingham session.... 1902
Tam, Silas Springer, Mobile—Montgomery session..... 1900
Thigpen, Charles Alston, Montgomery—Montgomery session 1900
Wilkinson, David Leonidas, Montevallo—Birmingham session 1902
Wilder, William Hinton, Birmingham—Talladega session.... 1903
Total, 27.

COUNSELLORS-ELECT, 1904.

Betts, William Frank, Evergreen, Conecuh county.
Blair, Hugh Walter, Sheffield, Colbert county.
Burdeshaw, Lee Roy, Headland, Henry county.
Davie, Mercer Stillwell, Dothan, Houston county.
Harris, Elijah McCullough, Russellville, Franklin county.
Palmer, Jesse Gary, Opelika, Lee county.
Prince, Edward Marion, Coleanor, Bibb county.
Webb, Francis Asbury, Calvert, Washington county.
Total, 8.

SUMMARY.

Grand Senior Life Counsellors	33
Grand Senior Counsellors	36
Senior Counsellors	27
Junior Counsellors	27
Counsellors-Elect	8
Active Counsellors	131

THE ROLL OF THE COLLEGE OF COUNSELLORS BY CONGRESSIONAL DISTRICTS.

On this roll the names of the Counsellors are given by Congressional Districts. It is intended to serve as a guide in the election of new Counsellors, with a view to the distribution of them in approximate proportion to the number of members in the several districts. It is not considered to be good policy, and it is not considered to be fair and right, to give a few large towns greatly more than their pro rata share of Counsellors. The calculations are based on the nearest whole number.

THE FIRST DISTRICT.

Names of Counsellors—E. D. Bondurant, T. H. Frazer, R. Goode, H. T. Inge, E. L. Maréchal, F. A. Webb, J. B. Whitfield, S. S. Tam.—8.

	members	counsellors
Choctaw	11	0
Clarke	23	0
Marengo	20	1
Mobile	41	6
Monroe	22	0
Washington	8	1
Total	125	8

THE SECOND DISTRICT.

Names of Counsellors—G. Andrews, B. J. Baldwin, W. F. Betts, S. Bragg, R. Goldthwaite, L. L. Hill, R. S. Hill, J. A. McEachern, S. C. Henderson, J. L. Gaston, R. N. Pitts, C. A. Thigpen, G. P. Waller, I. L. Watkins, W. M. Wilkerson—15.

	members	counsellors
Baldwin	11	0
Butler	15	0
Conecuh	15	1
Covington	16	0
Crenshaw	16	0
Escambia	11	1
Montgomery	44	12
Pike	21	1
Wilcox	22	0
Total	171	15

THE THIRD DISTRICT.

Names of Counsellors—E. B. Ard, L. R. Burdeshaw, P. T. Fleming, T. G. Palmer, Seale Harris, S. M. C. Howell, R. L. Justice, J. R. G. Howell, M. S. Davie, W. H. Robertson—10.

Barbour	members	16	counsellors	1
Bullock	..	18	..	1
Coffee	..	11	..	1
Dale	..	19	..	2
Geneva	..	26	..	1
Houston	..	32	..	2
Henry	..	11	..	1
Lee	..	19	..	1
Russell	..	12	..	0
Total	..	164	..	10

THE FOURTH DISTRICT.

Names of Counsellors—S. G. Gay, E. G. Givhan, W. W. Harper, W. G. Harrison, G. A. Hill, G. King, A. G. Sims, B. B. Sims, R. L. Sutton, J. H. Williams, S. W. Welch, D. L. Wilkinson—12,

Calhoun	members	29	counsellors	0
Chilton	..	13	..	0
Cleburne	..	13	..	0
Dallas	..	26	..	4
Shelby	..	15	..	3
Talladega	..	19	..	5
Total	..	115	..	12

THE FIFTH DISTRICT.

Names of Counsellors—A. J. Coley, J. A. Goggans, A. L. Harlan, J. J. Harlan, J. A. Howle, L. W. Johnston, J. Jones, W. H. Moon, A. J. Nolen, J. E. Wilkerson, O. S. Justice, J. W. McLendon—12.

Autauga	members	13	counsellors	1
Chambers	..	15	..	0
Clay	..	14	..	0
Coosa	..	12	..	2
Elmore	..	20	..	2
Lowndes	..	23	..	0
Macon	..	16	..	1
Randolph	..	15	..	0
Tallapoosa	..	26	..	6
Total	..	154	..	12

THE SIXTH DISTRICT.

Names of Counsellors—J. D. Bancroft, M. B. Cameron, T. P. DeWeese, W. J. McCain, R. J. Redden, W. G. Somerville, B. W. Whitfield—7.

Fayette	members	12	counsellors	0
Greene	..	8	..	0
Lamar	..	11	..	1
Marion	..	11	..	0
Pickens	..	12	..	1
Sumter	..	15	..	3
Tuscaloosa	..	27	..	1
Walker	..	26	..	2
Total	..	122	..	7

THE SEVENTH DISTRICT.

Names of Counsellors—H. L. Appleton, E. S. Jones, C. L. Guice—3.

Cherokee	members	9	counsellors	1
Cullman	..	15	..	0
DeKalb	..	9	..	0
Etowah	..	20	..	2
Franklin	..	14	..	0
Marshall	..	12	..	0
St. Clair	..	17	..	0
Winston	..	12	..	0
Total	..	108	..	3

THE EIGHTH DISTRICT.

Names of Counsellors—W. H. Blake, H. W. Blair, T. E. Dryer, L. W. Desprez, S. H. Lowry, W. C. Maples, H. A. Moody, G. T. McWhorter, W. T. Pride, W. C. Wheeler, J. M. Peerson—11.

Colbert	members	15	counsellors	3
Jackson	..	13	..	1
Lauderdale	..	22	..	3
Lawrence	..	13	..	0
Limestone	..	9	..	0
Madison	..	27	..	4
Morgan	..	16	..	0
Total	..	116	..	11

THE NINTH DISTRICT.

Names of Counsellors—G. S. Brown, T. A. Casey, R. M. Cunningham, R. H. Duggar, W. Heflin, J. C. LeGrand, L. C. Morris, T. D. Parke, H. G. Perry, E. M. Prince, E. P. Riggs, T. F. Robinson, M. C. Schoolar, L. Whaley, C. A. Wilkerson, B. L. Wyman, W. H. Bell, D. F. Talley, O. L. Shivers, W. H. Wilder—20.

Bibb	members	30	counsellors	2
Blount	..	7	..	0
Hale	..	19	..	2
Jefferson	..	164	..	14
Perry	..	14	..	2
Total	..	234	..	20

GENERAL SUMMARY.

The whole number of members in the State is 1,308, and the whole number of Counsellors, exclusive of Grand Senior Life Counsellors, is 100. This gives one Counsellor for every 13.08 members. For convenience, we say one Counsellor to every 13 members, about.

The First District, with 125 members and 8 counsellors, has two counsellors less than the number to which it is entitled.

The Second District, with 171 members and 15 counsellors, has two counsellors more than the number to which it is entitled.

The Third District, with 164 members and 10 counsellors, has three counsellors less than the number to which it is entitled.

The Fourth District, with 115 members and 12 counsellors, has two counsellors more than the number to which it is entitled.

The Fifth District, with 154 members and 12 counsellors, has the number to which it is entitled.

The Sixth District, with 122 members and 7 counsellors, has two counsellors less than the number to which it is entitled.

The Seventh District, with 108 members and 3 counsellors, has five counsellors less than the number to which it is entitled.

The Eighth District, with 115 members and 11 counsellors, has two counsellors more than the number to which it is entitled.

The Ninth District, with 234 members and 20 counsellors, has two counsellors more than the number to which it is entitled.

ROLL OF CORRESPONDENTS.

REVISION OF 1904.

Bozeman, Nathan, M. D., New York 1899
Garnett, A. F., M. D., Hot Springs, Ark..... 1875
Hoffman, John Richard, M. D., Athens, Ala..... 1890
Peavy, Julius Franklin, M. D., Atmore, Ala..... 1899
Rorex, James Polk, M. D., Scottsboro, Ala..... 1891
Wyeth, John A., M. D., New York..... 1903
Lloyd, Samuel, M. D., New York..... 1904

OBITUARY RECORD.

[Taken from Reports of the Secretaries of the County Societies.]

CALHOUN COUNTY—Phillip Houston Brothers, non-graduate, Zula. Cause of death, cerebral apoplexy.

CHAMBERS COUNTY—John Harvey Bledsoe, mc Memphis 95, LaFayette. Cause of death, not stated. Thomas H. Bonner, mc Southern 84, cb Randolph 84, Hickory Flat. Cause of death, not stated. John Wesley DeVaughn, mc Vanderbilt 83, cb 83, Mill Town. Cause of death, not stated.

CHEROKEE COUNTY—William D. Hoyt, mc Jefferson 54, cb 03. Cause of death, septicæmia.

CHILTON COUNTY—William Eugene Stewart, mc Louisville 75, cb 79, Clanton. Cause of death, not stated. John F. Wise, mc Graffenburg 56, cb 79, Coopers. Cause of death, not stated.

CHOCTAW COUNTY—Robert Franklin Moody, mc univ Louisiana 59, Butler. Cause of death, not stated.

COFFEE COUNTY—Wallis H. Cardwell, mc Atlanta 81, cb 01, Victoria. Cause of death, consumption.

CONECUH COUNTY—Andrew Jay, mc Alabama 72, cb 84, Evergreen. Cause of death, not stated.

CRENSHAW COUNTY—William Thomas Burgamy, mc Jefferson 59, cb 88, Rutledge. Cause of death, pneumonia.

CULLMAN COUNTY—George W. McPherson, mc Vanderbilt 86, cb 86, Hanceville. Cause of death, pneumonia.

DALE COUNTY—John Clinton Holman, mc Jefferson 56, cb 87, Ozark. Cause of death, diabetis mellitus.

DALLAS COUNTY—Joseph Owen Boykin, mc Transylvania 43, cb 78, Tilden. Cause of death, not stated. Joseph Miller Cochrane, mc univ Virginia 65, cb 78, Eleanor. Cause of death, gastric hemmorrhage. Joseph Marion Donald, mc univ Louisiana 54, cb 78, Harrell. Cause of death, not stated. James Hervey Kyser, mc Tulane 97, Richmond. Cause of death, not stated.

ELMORE COUNTY—S. Osceola Humphries, mc Jefferson 85, cb 85, Speigner. Cause of death, not stated.

ESCAMBIA COUNTY—S. G. Dilburn. Railroad accident.

ETOWAH COUNTY—William Louis Funderberg, mc Atlanta Southern 83, cb DeKalb 82, Gadsden. Cause of death, not stated.

GENEVA COUNTY—Alpheus Baker Jernigan, mc ——, cb 88, Slocumb. Cause of death, pneumonia.

JEFFERSON COUNTY—Albert Thomas Henley, mc univ New York 69, cb Hale 78, Birmingham. Cause of death, nephritis. Charles Richard Sexton, mc Tulane 75, cb Tuscaloosa 78, Birmingham. Cause of death, pneumonia.

LAWRENCE COUNTY—Leonidas Walton Houston, mc univ Nashville 77, cb 78, Town Creek. Cause of death, not stated.

LEE COUNTY—John Marion Watkins, mc Tulane 71, cb Tallapoosa 87, Opelika. Cause of death, strangulation.

LIMESTONE COUNTY—William James Dupree, mc univ Vanderbilt 76, cb 79, Westmoreland. Cause of death, apoplexy.

LOWNDES COUNTY—Charles Edwin Reese, mc Jefferson 56, cb 78, Lowndesboro. Cause of death, not stated. Samuel Thomas McQueen, mc Pennsylvania 55, cb 78, Fort Deposit. Cause of death, not stated.

MADISON COUNTY—J. M. Clopton, Mercury. Cause of death, not stated.

MARENGO COUNTY—Robert Bell McCants, mc Georgia Southern 82, cb 82, Demopolis. Cause of death, peritonitis.

MARION COUNTY—James W. Howell, non-graduate, Ola. Cause of death, chronic nephritis.

MOBILE COUNTY—Goronway Owen, mc univ Pennsylvania 57, cb 78, Mobile. Died March 29, 1903. Cause of death, not stated.

MONTGOMERY COUNTY—Joseph Thomas Battle, mc Georgia 67, cb Barbour 87, Highland Park. Cause of death, not stated. James B. Townsend, old law, Montgomery. Cause of death, not stated.

MORGAN COUTY—John M. Kitchens, mc Alabama 85, cb Lawrence 85, Hartsell. Died Aug. 23, 1903. Cause of death, not stated.

PICKENS COUNTY—Thomas E. Murphy, mc Alabama 92, cb Greene 92, Aliceville. Cause of death, pneumonia.

SUMTER COUNTY—John Calhoun Parham, mc Kentucky S. of M. 77, cb 78, Gainesville. Cause of death, Bright's disease.

TALLADEGA COUNTY—John Harrington Vandiver, mc Jefferson 45, cb 86, Talladega. Cause of death, not stated. Humphrey Green Hendricks, mc Philadelphia 52, cb 86, Talladega. Cause of death, not stated.

TALLAPOOSA COUNTY—Robert W. Lightfoot, mc South Carolina 62, cb 82, Alexander City. Cause of death, not stated.

WILCOX COUNTY—William Thomas Purnell, mc Alabama 76, cb 79, Prairie. Cause of death, not stated. John Paul Jones, mc univ Louisiana 61, cb 79, Camden. Cause of death, not stated.

SCHEDULE OF THE ANNUAL SESSIONS AND PRESIDENTS SINCE THE RE-ORGANIZATION IN 1868.

Selma—Albert **Gallatin Mabry**	1868
Mobile—Albert **Gallatin Mabry**	1869
Montgomery—Richard **Fraser Michel**	1870
Mobile—Francis Armstrong Ross	1871
Huntsvi e—Thomas Childress Osborn	1872
Tuscaloosa—George Earnest Kumpe	1873
Selma—George Augustus **Ketchum**	1874
Montgomery—Job Sobieski Weatherly	1875
Mobile—John Jefferson Dement	1876
Birmingham—Edward **Davies McDaniel**	1877
Eufaula—Peter **Bryce**	1878
Selma—Robert **Dickens Webb**	1879
Huntsvi le—Edmund Pendleton **Gaines**	1880
Montgomery—William Henry **Anderson**	1881
Mobile—John Brown Gaston	1882
Birmingham—Clifford Daniel **Parke**	1883
Selma—Mortimer **Harvey Jordan**	1884
Greenvi le—Benjamin **Hogan Riggs**	1885
Anniston—Francis Marion Peterson	1886
Tuscaloosa—Samuel Dibble Seelye	1887
Montgomery—Edward Henry **Sholl**	1888
Mobile—Milton Columbus Baldridge	1889
Birmingham—Charles Higgs Franklin	1890
Huntsville—William Henry Sanders	1891
Montgomery—Benjamin James **Baldwin**	1892
Selma—James Thomas Searcy	1893
Birm ngham—Thaddeus Lindley **Robertson**	1894
Mobile—Richard Matthew Fletcher	1895
Montgomery—William Henry Johnston	1896
Selma—Barckley **Wallace** Toole	1897
Birmingham—Luther Leonidas Hill	1898
Mobile—Henry **Altamont Moody**	1899
Montgomery—John Clarke **LeGrande**	1900
Selma—Russel **McWhorter Cunningham**	1901
Birmingham—Edwin **Lesley Maréchal**	1902
Talladega—Glenn Andrews	1903
Mobile—Matthew Bunyan Cameron	1904

THE SCHEDULE OF THE ANNUAL ORATORS.

Gaston, John Brown—Mobile session 1869
Ketchum, George Augustus—Montgomery session 1870
Anderson, William Henry—Mobile session 1871
Weatherly, Job Sobieski—Montgomery session 1872
Jordan, Mortimer Harvey—Tuscaloosa session 1873
Seelye, Samuel Dibble—Selma session 1874
Ketchum, George Augustus—Montgomery session..... 1875
Michel, Richard Fraser—Mobile session 1876
Fournier, Edmund Henry—Birmingham session 1877
Riggs, Benjamin Hogan—Eufaula session 1878
Mitchell, William Augustus—Selma session 1879
Baker, Paul DeLacy—Huntsville session 1880
Baldridge, Milton Columbus—Montgomery session 1881
Bryce, Peter—Mobile session 1882
Sholl, Edward Henry—Birmingham session 1883
Sanders, William Henry—Selma session 1884
Searcy, James Thomas—Greenville session 1885
No oration delivered—Anniston session 1886
Huger, Richard Proctor—Tuscaloosa session 1887
Baldwin, Benjamin James—Montgomery session 1888
Coleman, Ruffin—Mobile session 1889
Inge, Henry Tutwiler—Birmingham session 1890
Riggs, Edward Powell—Huntsville session 1891
Wyman, Benjamin Leon—Montgomery session..... 1892
Andrews, Glenn—Selma session 1893
Blake, Wyatt Heflin—Birmingham session 1894
Cunningham, Russell McWhorter—Mobile session 1895
Maréchal, Edwin Lesley—Montgomery session 1896
Hill, Robert Somerville—Selma session 1897
Harper, William Wade—Birmingham session 1898
Chapman, George Clarence—Mobile session 1899
Goode, Rhett—Montgomery session 1900
Harrison, William Groce—Selma session 1901
Ward, Edward Burton—Birmingham session 1902
Morris, Lewis Coleman—Talladega session..... 1903
Brown, George Summers—Mobile session 1904

THE ROLL OF OFFICERS.

REVISION OF 1904.

PRESIDENT.

CAPERS CAPEHART JONES, M. D.....East Lake.

VICE-PRESIDENTS.

Senior—JOHN ROBERT GRAVES HOWELL, M. D.....Dothan.
Junior—WALTER HOWARD BELL, M. D.....Hargrove.

SECRETARY.

LEWIS COLEMAN MORRIS, M. D.....Birmingham.
(Term expires 1908.)

TREASURER.

HENRY GAITHER PERRY, M. D.....Greensboro.
(Term expires 1908.)

THE STATE BOARD OF CENSORS, ACTING AS A STATE BOARD OF MEDICAL EXAMINERS, AND AS A STATE COMMITTEE OF PUBLIC HEALTH.

Sholl, Edward Henry, Birmingham 1904-1909
Watkins, Isaac LaFayette, Montgomery.....1904-1909
Welch, Samuel Wallace, Talladega 1903-1908
Furniss, John Perkins, Selma 1903-1908
Sanders, William Henry, Senior Censor, Mobile.....1902-1907
Moody, Henry Altamont, Bailey Springs 1902-1907
Franklin, Charles Higgs, Union Springs.....1901-1906
Wilkerson, Wooten Moore, Montgomery.....1901-1906
Robertson, Thaddeus Lindley, Birmingham 1900-1905
Gaines, Vivian Pendleton, Mobile 1900-1905

ORATOR.

SEALE HARRIS, M. D.....Union Springs.

ALTERNATE ORATOR.

BENJAMIN BRIT SIMS, M. D.....Talladega.

MONITOR.

WILLIAM GLASSELL SOMERVILLE, M. D.....Tuscaloosa.

STATE HEALTH OFFICER.

WILLIAM HENRY SANDERS, M. D. (Official Residence)..Montgomery.
(Term expires 1909.)

PLACE OF MEETING—MONTGOMERY.

Time of Meeting—Third Tuesday in April.

SCHEDULE OF REGULAR REPORTERS.

J. G. PALMER, M. D., Opelika, Ala.—
The Responsibilities a Physician Assumes in his Obstetrical Work, and How he Should Meet Them.

L G. WOODSON, M. D., Birmingham, Ala.—
Iritis.

HARRY T. INGE, M. D., Mobile, Ala.—
Surgery of the Kidney, and its Application to the Cure of Disease.

H. G. PERRY, M. D., Greensboro, Ala.—
The Diagnosis and Medical Treatment of some Forms of Kidney Disease.

W. S. BRITT, M. D., Eufaula, Ala.—
Lobar Pneumonia and its Treatment.

W. P. MCADORY, M. D., Birmingham, Ala.—
The Non-Surgical Treatment of Uterine Displacements.

ERASMUS T. CAMP, M. D., Gadsden, Ala.—
Medical and Surgical Uses of Electricity.

SAMUEL G. GAY, M. D., Selma, Ala.—
Varicose Veins and their Surgical Treatment.

HENRY A. MOODY, M. D., Florence, Ala.—
Modern Therapeutics.

HENRY N. ROSSER, M. D., Birmingham, Ala.—
Therapeutics.

S. W. WELCH, M. D., Talladega, Ala.—
Acute Gastro-Enteritis of Infancy and Childhood.

W. D. GAINES, M. D., Lafayette, Ala.—
Cystitis.

This list, together with that of the Volunteer Reporters, will be completed later, and announced on the programme in advance of the next meeting.

PART II.

Medical and Sanitary Dissertations

AND REPORTS.

THE ANNUAL ORATION.

By George Summers Brown, M. D., of Birmingham.
Senior Counsellor of The Medical Association of the State.
of Alabama.

Mr. President, Ladies, and Gentlemen:

Allow me to offer my sincere thanks to the members of this Association for the honor they conferred upon me last year in electing me to the post of Orator for this meeting.

It has been hinted that several malevolent jokers among them joined forces with the more radical reformers (who had for long sought some way by which to abolish this ancient and honorable office) and elected me with the hope that my address would kill it promptly and permanently. Whether this is true or not, I cannot be sure, but, even though my effort does prove fatal to the institution, I shall still hold it an honor to have been invited (on whatever ground) to address, upon a theme of my own, this body of professional brothers whom I have known and loved so well and so long.

Most of you have heard me often enough to know that I am not an orator in the oldest and most common acceptation of the term, therefore, in my election the implication was carried that the modern written address, or paper, was all that would be called for or expected. Montaigne said: "We who cannot attain greatness let us rail at it," so, let me say that oratory, in the old acceptation, does not carry the weight it once did. Particularly is this true in scientific circles; for the reason that as scientific knowledge grows in bulk and accuracy, feeling has less and less to do with its study and promulgation. But, even though no modern Demosthenes, Pitt, Prentiss, nor other spell-binder, wields power in scientific circles by reason

of his oratory alone, I am constrained to admit that the scientific teacher who comes with a truth to tell should, in some remote degree, be a lingual descendant of those old fireeaters, whose privilege it was the applause of listening senates to command.

The scientific teacher should have eloquence—that pleasing compound of soft and winning speech; he should have, also, a magnetic pose and graceful presence, a frank and honest eye, and that unmistakable ring of faith and truth in his voice. Mr. Huxley said that he himself was a born missionary; that in all his arduous study in the pursuit of pure science, his love of learning was always secondary to the pleasure he got out of telling it to others. He loved the tilt and combat of debate, and it was his eloquence more than anything else that first called attention to the work of his friend, Darwin, the silent recluse.

I once heard Professor Brook, of Johns Hopkins University, say of Huxley's eloquence: "It sweeps from the rugged heights of controversy over green meadows strewn with the flowers of literature, through fields and orchards laden with the ripe fruits of science, all watered and vivified by a deep stream of wisdom which continually bursts forth in great wells of truth and again flows silent beneath the verdure which it nourishes, but always there for all those who wish to drink."

Having justified my occupancy of this office, to my own satisfaction at least, and hoping that I have not overdone the matter of advertising my shortcomings, I now invite your attention to the subject matter of my paper, the title of which is, "The Charity which Science Teaches as Applied particularly to the Consideration of the Alcohol Habit."

Oratory we have briefly analyzed, the requisites for which, alas! I do not possess. The writer of a mere paper must remember the lines: "Spread no wings for sun-ward flight, thou soul with unplumed vans," and must anchor with a short cable to his central point, attempting no more of the ornate than truth and the use of plain English supplies; this I shall try to do.

Science has proved, by the collation of facts and their analysis, that the moral tenets laid down for man's guidance in the different religious codes have survived through the ages, not on account of the dicta, but because they were essential to the happiness of the individual man and to the preservation and progress of the race. It is a plain fact, however, that the mental grasp of the average of a people as represented by its civil and religious laws must always be below the moral conceptions of its most advanced thinkers—the discoverers of the laws. The

old laws were supported by religious command, but even those were, in the end, effective only as they did not outrun the moral grasp of the average individual. For instance, the accepted moral laws of a Congo tribe embrace stealing and murder as business enterprises and as fine arts; and while this Congo code does not measure up to the ideals of the Anglo-Saxon missionary who is working with them, it is good enough for that society for that time and he is forced to see it. We who have imported the individuals of that tribe and *hot-housed* his *agricultural* knowledge in our cotton fields have lost sight of his *natural moral* standing and progress, and err widely in expecting him to adopt our moral code, which is at least several thousand years ahead of his comprehension.

The biological view of man's development tends to make us all charitable and forgiving toward the weak and unfortunate and all-modest about our own physical and mental endowments. This must be so, since it is essentially without reason to blame one man for the unhappy heredity and environment which gave him all the unattractive physical and mental and moral traits; or to praise another for possessing the happy opposite of all these, since neither had anything to do with producing himself. The majority of us are still savage enough to hate and try to exterminate all unattractiveness, and this instinct is a part of the great law acting to force the race upward. Killing off the unfit to make room for the fit; the same instinct that prompts us to kill snakes and other creeping monsters; a spark of that fierce fire of hate with which primitive man waged his first wars for a foothold on the planet. Still, it is not *reasoning*. *Reason* prompts us to be merciful; for we, ourselves, may, some day, be in need of it.

Science has slowly wrested one subject after another from the dreamers and mystics of old and made them her own; she has taken Astrology and turned it into Astronomy; Alchemy and made Chemistry; from those possessed of devils she has stayed the scourge and given them havens of rest and refuge in the insane hospitals and epileptic farms.

Its work, in future, will be to take the mentally and morally deficient and criminal classes out of the hands of the ignorant and mentally deficient criminal, and to place them, as are already placed the *physically* maimed, in the hands of those who are scientifically *interested* in them, because *they only can so far master their hereditary hatred of all things unfit, as to be able to treat them rationally and kindly.*

Unquestionably, scientific morality has a big contract on its hands. It has not only the old sins to fight, but new ones are being invented, or, at any rate, the old ones are being organized and made scientific in their operations. Sins of labor, capital, and political grafting, already hoary with age, seem in their present refinement like adamant in their permanency. Still, as Mark Twain says, there is plenty of time, and scientific morality will take these up as it goes on its beneficent way.

The *charity* it teaches us to feel is in regarding all disease, ignorance, and crime as *afflictions*, and, that we *are* our brother's keeper.

When this view is held by the majority of us, not as a mere fanciful theory, but in a working degree, then will public opinion have been moulded and the work accomplished. When that millenium arrives all the insane, criminals, and drunkards will be cured, or permanently housed as incurable. Pistol-carrying and wanton murder will be things of the past. Newspapers will have ceased to make a living and grow rich by aiding quacks of all professions, thieves, and charlatans, and grafters, and other types of scoundrels, to rob the poor and afflicted and ignorant; lawyers will work for truth and justice, and doctors will pay more attention to diagnosis and preventive and philosophical medicine and less to aiding the pharmaceutical grafter and the surgical faddist. I may be excused for also hazarding an elastic prophecy that when this does come about the lion and the lamb will be ready to lie down together. I don't think that a thousand years will be long enough. A million might, but these imperfections are so ingrained and have lasted so long that they are called "Human Nature," so that to the end of time political grafting and much else will probably endure. As Kipling says:—

"Ere they hewed the Sphinx's visage
Favoritism governed kissage
Even as it does in this age.

Who can doubt the secret hid
Under Cheop's pyramid,
Was that the contractor did
Cheops out of several million,

Or that Joseph's sudden rise,
To controller of supplies
Was a fraud of monstrous size
On King Pharaoh's swart civilians.

So, the artless songs I sing do not deal with anything new or never said before,
As it was in the beginning, is to-day official sinning and shall be forever more."

The fact, however, that Utopia must always be a thousand years or more in the future is no reason why we should despair of accomplishing, little by little, many good and substantial advances in taking care of, and generally increasing, our stock of sympathy and mercy for the poor and unfortunate and ignorant. Indeed, enough has already been done to show the good of such institutions as insane asylums, epileptic farms, inebriate asylums, reformatories, and industrial schools for criminals, even with the stinted means under which the managements of these present experimental stations labor; and I am sure it is not too radical to express the belief that a few more years will see it generally proven to the people of all states and civilized countries that every dollar spent in this way will save ten from the cost of criminal courts, jails, and poor-houses. It would be near enough to Utopia to see the old doctrine of state's-right's crystallized into a sane, economic, scientific, competition—all states vieing to see which could most successfully dispose of, work over, and utilize, its moral sewage. I think we may confidently hope that the near future, comparatively speaking, will see each state equipped with scientifically conducted institutions which will gradually absorb all the defectives. An insane asylum, perhaps, conducted on so broad a policy of unlimited acreage and money as to include inebriate asylums and reformatories for criminals of all ages A place where such as can be, will be, cured, and where the rest will be comfortably and permanently housed. Although we doctors cannot command printer's ink we must do what we can to educate the people toward these ideals. We have few opportunities for public addresses, but with every patient who depends upon our chat as a part of his entertainment during convalescence we can sow seed that will tend to benefit him and his fellowman. It is sad to confess that the doctor has little influence with any except the weak-minded convalescent. Notwithstanding the fact that all the best hospitals are managed by physicians, including the Johns Hopkins and the Craig Colony Epileptic Farm, the popular idea is that doctors are poor managers and poor business men. This is because the dollar is not our unit of value; we have a broader, brighter view, and the ultimate economic results we strike for cannot be seen by those who have not a medi-

cal education, nor those who keep the dollars so close to their eyes that they cannot see the rising sun of charity and progress in all the humanities.

The task of managing half a dozen sick rooms, all daily under different, and oftentimes most complex conditions, affords us as good training to develop a manager as any broker's office, bank, floor-walking, or feed store can; and yet, in the modern middle class hospitals we are only necessary evils, like the scrub woman and the getting in of coal. The architect, lady managers, and the superintendent of the Sunday school, draw up the plans and build them on subscription; and managers, trustees and nurses go on misconducting them, encouraged and deceived by enthusiastic lay friends who are philanthropists for this day and time only. This is all in the game, however, and we must work on and talk on and depend on our humor to sustain us, just as we must patiently, and daily, if need be, explain our position in the matter of who shall be allowed to practice medicine and who shall not. Our work never ends and our patience must be inexhaustible. When an influential member of the legislature tells us that he has had enough of labor unions and that he proposes to vote for a law which will allow any one to practice rather than see us unfairly monopolize the medical market, we are always tempted to go our way, and leave him swelling with his ignorance and virtuous indignation, but—we never do; and the proof of it is seen on every hand. Millions are spent for hospitals, clean streets, pure water and organized national efforts to keep down epidemic disease. No, we must explain (seventy times seven, if need be) to this benighted legislator who, though in medical matters a child, is in other lines an intelligent gentleman and wields an influence; and we must educate him or we can accomplish nothing. We must try patiently to show him wherein the regular medical profession differs from all so-called schools of medicine; to show him that it bears the same relation to them that, for instance, the accumulated knowledge of mechanical engineering taught in one of the great schools bears to the ideas of the perpetual motion crank who does not know the difference between a driving rod and a monkey wrench. We must show him, too, the difference between our organization banded together for mutual improvement in the healing art to protect the public against incompetent practitioners and to keep down epidemic disease, and a trades-union banded together to keep up prices and to keep down competition. The trades-union says to the workman: "Join us and pay your dues and you will be a

member in good standing, whether you can drive a nail or lay a brick straight or not." We say to the medical aspirant: "You must show your fitness to be entrusted with the lives of the community, by telling what you know about the science and art of medicine." If he is believed to be competent, he is given a license without any thought as to whether he will join our society or not. He can stay out of our society, work as many hours as he pleases, and charge whatever he can get; he can even invoke the aid of printer's ink and go to quacking it; we have no further interest in him unless he comes up for membership in our society, and then he has to conform to certain decent tenets of *ours* which the mere *law* is not particular about. Dignified medical societies never concern themselves with hours of work nor the amount of pay that either a member or non-member is getting. Our extra time and energy we try to occupy in self-improvement and our greatest work is in moulding health laws that will lessen our work by lessening disease. To this spirit of self-sacrifice and scientific zeal devoted to humanity, there is no parallel, and in the work itself we have no competitor. There would not be a sewer, or a clean street, in the world today had not the scientific and humanitarian zeal of the regular profession patiently talked and sturdily fought for health laws all down through the ages. Quacks, charlatans, grafters, and the practicers of special *"isms"* and *"pathies"* are never interested in the health laws. They have no surplus of energy or vitality to give to their fellow men, but are parasites, as it were, on the body politic, artificially nourished and kept alive by printer's ink.

To hold the biologist's view of life, however, is to be charitable even to these; to be "merciful to all that lives, letting unkindness die, and greed and wrath, so that your lives be made like soft airs passing by."

In this spirit of moderation, tolerance, and charity, I have attempted in the remainder of this paper to write something of the alcoholic habit as we doctors see it, though not as most philanthropists would like it to be.

Professor Woods Hutchinson has recently published an article to the effect that alcoholic drinks are absolutely necessary to the activity of the civilized races, as evidenced by the statistics of the amounts consumed by the Germans, English, and Americans. These statistics scarcely prove this, I think, but it must be agreed that they do show that if alcohol is not absolutely essential it is at least an inevitable accompaniment. It seems to me that the explanation of this relationship is that in

progressive races we find the widest range of condition, and consequently the greatest variety of individuals. We find higher types of virtue and lower forms of vice than in those races who are all of one type, just as among domestic animals we find a great variety in contrast to the wild animals of the same species. Among civilized dogs, we have the two-pound black and tan and the great Dane; among horses, the Shetland pony, the dray horse, and Dan Patch. Left long to themselves under unchanging conditions these revert to the types as represented by the slinking wolf and the disconsolate cayuse. Striving and overcoming in an existence of shifting conditions makes for civilization, is civilization. When conditions cease to shift, nature crushes man back to a type by a process of natural selection. Before the introduction of opium by the English the Chinese were probably fairly virtuous in the use of intoxicants; and it is possible to imagine in the rather uniform taste for wines in the Latin races of today a step in the direction of the palm wine, and absolute contentment of the South Sea Islander.

Nature will, in the end, have her way with the destiny of the race, in spite of the frenzied efforts of all reformers. In our strenuous life families burn up fast. The strong man from the farms and his children do the great work of the world. With success, come affluence and ease; these bring physical, mental, and moral weakness, bad habits follow, and the third or fourth generations are exterminated. All of which is to say that it takes a great variety of people to make up the world, that is, the civilized world. As a bit of contemporary doggerel puts it:

"Notwithstanding what we wish,
In this world of fact and fate,
Some must fish and some dig bait—
Just a few of us can fish."

As physicians and philanthropists, therefore, our sole concern is with the individual man; if we can touch him here and there with the wand of help and mercy it is all we can hope for. To attempt to administer the destiny of the race for even two generations is futile and unscientific.

At present, the habitual drunkard, and the promising material for such, are largely in the hands of the hired officers of the law. It is the duty of every intelligent citizen to bend all his surplus energy towards placing them in the hands of the medical profession, where they belong, as has already been done in

the cases of epidemic diseases, epilepsy, and insanity. Both the popular methods of handling the victim of the alcoholic habit are wrong. I refer to the police plan of handling him with a club, and the other kindlier plan of appealing to his will power, which he has not, and trying, by miraculous means, to remove physical defects and regenerate lost parts, which are impossible. The officers of the law handle him because they have to, but they should be relieved of this responsibility; because, for one reason, they cannot make a diagnosis between alcoholic narcosis and compression of the brain. When a patient is in a stupor on a doorstep, or in his cell, they cannot tell whether it is due to drink, or to a fall, or to the policeman's club. The temperance people want to help him in a kindlier way, but, through ignorance, go to the other extreme. Comfortable *smugosity,* of course, cares nothing except to joke about him; so I must claim that to our own profession should largely belong the duty of instructing the public in the effects and dangers in the use of alcohol, as well as the responsibility of caring for and treating the unfortunate subjects of the habit. Physicians, as a matter of course, have occasion to study the subject in a more comprehensive way than any other class, and, indeed, probably see more individual examples of the habit than any other, excepting, of course, policemen and saloon keepers. But everybody has views concerning it. Saloon keepers and policemen often have very clear views, considering their very manifest biases toward the drinking public. As examples of this, the barkeeper frequently refuses to sell drink to a man who, from experience, he knows cannot resist taking too much; and the policeman, finally, tired of clubbing the old-regular rounder on his beat, falls into a contemplative mood, philosophizes, and becomes lenient. He gropes in his speculation and does not reason very deeply, but notwithstanding that something is wrong he reaches the conclusion that the old rounder does not come along on his regular old monthly or weekly tear for the pure love of being clubbed. And it is so with all who give the subject thought, or have the thinking thrust upon them. All who think about it conclude that the subject of alcoholism is a victim; that he is a slave to something that he cannot resist; that it is a weakness and not pig-headedness; that the victim of alcohol is the victim of a habit, and as such should be studied and treated.

This is an old truth, older, perhaps, than history. Not to go further back than Shakespeare, we have Cassio saying: "Not tonight, good Iago; I have very poor and unhappy brains for drinking. I could well wish courtesy would invent some

other custom of entertainment." Again later on: "I am unfortunate in the infirmity and dare not task my weakness with any more." And then, after Cassio's disgrace, Montano says: "And 'tis great pity that the noble Moor should hazard such a place as his own second with one of an ingraft infirmity."

The student of morbid anatomy is familiar with certain and wide-spread damages to the human economy wrought by the use of alcohol taken in one shape or another, which I shall touch upon very briefly. We meet with many people, from thirty to sixty years of age, who have dyspepsia, for which they continually dose themselves. Such symptoms are very often manifestations of a liver, stomach, or nervous system, which has been greatly damaged by the use of alcohol—beer, whiskey, wine, tincture of ginger, spirits of camphor, or patent medicines advertised to cure nervousness and indigestion. In such a patient stimulants finally become a necessity. They whip up the system year after year and then the victim dies. He does not always die from alcoholism directly, but often from some intercurrent affection—pneumonia, Bright's disease, grip, measles, or what not. It occurs only to the initiated that alcoholism was really the cause of death. Every acute epidemic disease finds its first and easiest victims amongst this class. Their tissue cells and blood cells, whose respective functions are to repair waste and repel invading germs, are weakened below par and their resisting power is *nil.* Pneumonia alone carries off thousands every year whose deaths should properly be charged to alcoholism. Although the pathologists cannot demonstrate the intangible cell action of the mind, they have, to some extent, studied and observed suggestive changes in the brain cells of people dead of dementia (alcoholic or other), and those of animals experimentally poisoned, and they may, one day, be able to trace, by means of a long series of observations, all the conditions, from the perfect cell of the healthy man to the blackened stump of the subject of alcoholic dementia; representing, perhaps, mentality ranging through, first, weakening of will power and moral stamina; forgetfulness; inability of mental application or consecutiveness of purpose; apathy and general demoralization; and, finally, complete blotting out of the last spark of intelligence (alcoholic dementia) "sans eyes, sans wit, sans everything." These effects are more interesting to the pathologists, however, than to an audience of this kind; so I shall here leave the subject to be doctored up by those who really enjoy it most. I mean the temperance agitators. A florid, yellow-journal style of description of the physical lesions

is their long suit. The charitable, which is the scientific consideration of the habit itself, seems to interest them very little. As a horrible example of their love for the morbid, I clip the following from a medical journal news item: "Miss Weston, an English temperance agitator, publishes in 'Ashore and Afloat,' under the caption of 'A Drunken Brain'—'No Joke, but the Awful Truth,' a statement that 'at an autopsy, on opening the skull the odor of alcohol was sickening. One of the surgeons then struck a match and held it close to the head; immediately it ignited and a blue flame enveloped the whole of the exposed brain.'" The editor says: "Miss Weston seems to think truth a matter of slight importance compared with the virtue of total abstinence." I think she herself must have been laboring under the stimulating effects of Peruna, or some other temperance drink; unless, in truth, her subject was indeed a very great old soak.

So much for the grosser effects on the economy termed physical.

> **This is its work upon the things ye see,**
> **The unseen things are more; men's hearts and minds,**
> **The thoughts of peoples and their ways and wills;**
> **Those, too, the great law binds.**

It is obvious that our better understanding of the subject lies in the more practical study of the habit itself—what we term empirical knowledge; the result of experience and observation covering a wide range of cases. Although the effect of alcohol varies in minor particulars in each individual case, the whole human race in this regard can, for convenience, be divided into two great classes, viz., those in whom it acts as a poison; and those in whom it supplies a physical need, and hence acts pleasantly.

The first represents the normal, in whom for generations there has been no abuse of the system by the use of alcohol, or other narcotic. The second class includes those who, through mental, moral, or physical weakness, in one generation or another, have had the need built up for them, or have built it up for themselves, through social drinking, patent medicines, or other ignorant perversions of habit. The first class can, by sufficiently ignorant and vicious social surroundings, overcome in time their natural aversion for the drug and establish, first, a tolerance of, and then a need for, it.

The second class can, by enlightenment and better social surroundings, learn to first control and then, to a greater or less extent, stamp out their natural physical need, provided, of course, it has not passed beyond the possibility of a cure. Habit, in the

light to be considered here, is a physical need. It may be inherited or acquired, but once existent, no matter how brought about, it is very real.

Young men are constantly warned from every quarter against certain evils of drinking. Drinking, however, is a fashion amongst them, a long-established fashion, and the danger seems remote, so, the fact remains that nearly all young men drink. They see older men all around them who have been drinking all their lives and are still respectable and capable business men, so they laugh and are unafraid. They must be taught that a drunkard is not an accidental or unavoidable product. He is a result of certain combinations of our incomplete moral development. He is, in short, the result of ignorance in one generation or another. For example, let us take a group of young men in one of our cities,—clerks, lawyers, and doctors, like Huckleberry Finn, with a superabundance of that kind of time on their hands which is not money. They are thrown together at the club, on the street, and in society, and they all drink socially. Very soon it is seen that one of them gets drunk on every drinking occasion. None of them understands it. The victim thinks each time it was an accident, while the others say he was a fool, or that he did it just for meanness. The fact is that in his case there is very often a strong hereditary taint. The boy himself knows nothing of this. He will be told by his friends that he must quit making a fool of himself; that he drank much larger drinks than any of the others and got much drunker. Yes, he admits how foolish he was, and mentally resolves that next time he will take his drinks like a man and not be foolish. And next time the same old thing is repeated. He wakes next morning in a shattered, nervous state, and feels instinctively that he must have more whiskey. It still does not occur to him that he is different from the others who, on those painful next mornings, weak of intellect as they are, can think of about a thousand things that they want more than they want whiskey. But he wants it. It is food to him, poison to them. He, too, rarely has a headache as they do who have not the physical need. His symptoms are weakness—widespread—involving muscle, nerve, brain, will-power itself. He can only contemplate the immediate relief to his shattered nerves. The consequences to his family and to his social, religious, and business standing are remote and of secondary importance to his blunted sensibilities in the presence of this one burning, raging, maddening desire; this physical need—as real a need as the thirst of the famishing mariner in the open boat. In his case,

the stimulant acts pleasantly, bracing his debilitated nerves and bringing him back to his normal state. His system takes up the poison readily because of the physical need. Of course the effect is brief, and often there is no end to the spree until the stomach revolts and refuses to absorb any more. Then often comes nervous collapse, constituting delirium tremens.

This fact of a real physical need as the immediate cause of drunkenness must first displace from our minds the old convenient assumptions of total depravity and general cussedness before we can hope to do anything toward the prevention of relief of this evil habit. Of the other members of our group some will become absorbed in a business or profession which demands sobriety, and this, coupled with their natural independence of stimulants, will cause them to quit drinking entirely, or nearly so. The remainder drink, or let it alone, according to their needs, lessened or increased by the conditions of life which surround them, and get their dividends later in life.

The treatment, curative and preventive, must be educational; it can be nothing else. As a rule the boy is told that if he drinks he will find himself in the gutter before long. He sees that this is not so. He sees that very few of the better class of drinkers ever get in the gutter. He must be taught the slow insiduous changes which drinking brings about in the body, in the mind, the will-power, the moral potential, the very soul itself. It can not save him to tell him there is a danger unless the nature of that danger is made clear. A man, armed to the teeth, would be helpless as an infant in a dark room, or the jungle grass, against an enemy or danger, of the nature of which he was ignorant. The boy must understand (but first his parents must understand) that if he has an hereditary demand for alcohol it will be suicidal for him to touch the first drop; that if he has not the hereditary taste, and knowing the immediate and remote effects of the habit, he stands in danger of at least having his intelligence questioned if he uses it. The majority of the drinkers are, in the beginning, drinkers through ignorance alone. To their superficial view, only a very small proportion of their number ever suffer any ill effects from it. But against the specious argument of our wily "Ancient" that "Wine is a good familiar creature if it be well used," it must be insisted that not one escapes. Its consequences are often so hidden that the result cannot always be traced in the individual case; but in a long series of observations since the time of Noah, or earlier, some pretty reliable conclusions have been reached.

The law of compensation which runs through all nature is not arrested here:

> **"It knows not wrath nor pardon**
> **"Utter true its measures mete, its faultless balance weighs,**
> **"Times are as nought, to-morrow it will judge,**
> **Or after many days."**

Many men drink for a long time with no perceptible bad effects, and of course such apparent immunity breeds scepticism as to the real extent of the harm. Young people who take plenty of exercise throw off the effects of poisons quickly, because waste and repair with them naturally go on faster than with the old. Their bones and tissues heal more readily after injuries. They can, by sticking to it, establish a tolerance for alcohol which will enable them to drink quantities that upset all superficial argument as to the harm the drug is capable of. After middle life is past, however, there is not such a surplus of energy and then every little indiscretion will act unpleasantly; and still later, without the indiscretions, the old sport begins to get his dividends on the fun he had between twenty and thirty.

Every action has its reaction. Use makes healthful habits, while non-use or abuse makes unhealthful ones. Frugality and abstemiousness make strength; indulgence, artificial support; stimulants make weakness. Plain food calls on the stomach for all its reserve force, and if it has this it will be increased. "To that which hath it shall be given." On the other hand, food loaded with stimulating condiments, in a stomach douched with whiskey or dosed with pepsin, will form the habit of expectancy in that stomach for condiments, whiskey, and pepsin, and it will in time refuse to digest anything without them. It must be understood that a habit is a fixed condition and not a noxious something which can be cast out by a doctor's prescription, or a quack medicine. People who cannot eat without stimulants, digest without pepsin, nor sleep without patent medicines, are so because of the previous ignorant abuse of the functions of the body. The fault may lie backward a generation or two, but it is there just the same. Habit, then, is more or less of a fixture. It cannot be antidoted like malaria, nor put off at will like Hamlet's inky cloak, but it is that something within which passeth show, and it is there either to stay or to be long and patiently atoned.

This fact of habit, once looked upon in the light of a chronic or incurable disease, it is readily seen that the field of treatment

lies largely in prevention. The physical damage wrought by the drug cannot be cured, and it is almost equally difficult to stop or combat the demand of the nervous system for the stimulant to which it has long been accustomed.

The crusade against whiskey is a crusade of education. We need a law in conformity with the medical and advanced public opinion of the day which recognizes that the habitual drunkard is an incompetent, a law which would recognize the necessity for reformatories for inebriates. When the swell of public opinion has reached such proportions that the waves wash the bases of such impregnable rocks of ignorance as the average body of legislators and the newspapers, we may then hope for much; for *all* the people will then have recognized that inebriates are harmful to themselves and to the community, and they will put them where they will have proper medical attention and where they can do no further harm to themselves or to others. Such a law would send a progressively diminishing number of incompetent, dangerous drunkards to an educational asylum before they had time, as under the present system, to send their families to the poor-house, or to kill their neighbors. Mr. Buckle said: "The laws of the land are always one hundred years behind intelligent public opinion, and it would seem that in this regard they are even further behind."

Reforms, however, only obtain legal recognition when the majority want them; or, as has, perhaps, been better said, "A law that has a solid moral foundation is the slow crystallization of public opinion." The slow working of natural laws tends to bring this about in all things, but it should be the accepted duty of every intelligent citizen to try to be a part of this natural law and to help to educate the masses. When this educational work is complete, we will have a legal recognition of alcoholism as a mental and physical disease which deprives the victim of the rights of sane citizenship and commits him to the care of others. Such a stage of human development will foster a tendency in the young to be sober, by their instinctively and unquestioningly accepting as right what all sane people around them accept; just as all normally constructed people accept the tenets against stealing and the like. In the absence of such enlightenment, however, the campaign must be instituted in the nursery. Keep it away from the children. If you keep it at all, keep it on the shelf above which you keep the rough on rats and the concentrated lye; for it is worse than either of them. Where these carry off a few little innocents, the first, not to deal in superlatives, does a great deal worse. I would say to

the man of family, who feels that he has Christian duties and moral responsibilities: Let it alone, because, although it may never do him any serious harm, it will weaken his strong constitution upon which others are dependent, as well as leave a cumulative appetite, through heredity, to his offspring. If a man has the habit so fixed that he cannot quit, or does not care to, he should drink it on the sly, because he can never know when his taking a drink in public will harmfully influence some younger man who trusts and admires him. The manner in which we demean ourselves in the presence of the young is a heavy responsibility. Many are careful of their actions and language in the presence of their own children, but are careless of the good or harm to others. It should extend: "Let your enemies have part."

To the boy or young man with body and mind still healthy I would say this: Alcohol is at present a beneficent agent of nature—engaged in killing off the unfit. If you have the hereditary taste for it, fear always to come within smelling distance of it. If you have not, both the effect and taste will be disagreeable to you; and be sensible enough and stubborn and manly enough not to let a crowd of fellows who like it force you to take what you don't like. To the young drunkard who becomes repentent after a spree; who but for the fatal habit, still has useful and ambitious promptings; who, pulling hard against the whiskey appetite, has religious, social, family, and business ties, I would say: In order to be cured you must first admit to yourself and to others that you are the victim of a disease, and must take such steps as will keep you from drinking. You must recognize that you have limitations; that you are different from other men. Deaf men must keep off railroad tracks and one-legged men cannot run foot races. Men who have the disease must keep away from the sight and smell of whiskey and all manner of conditions which they know by experience will tempt them to drink or will bring on physical or mental weakness—the actual need for the drug.

Whether the fault is your own, or your father's, or your grandfather's, the fact exists, and you must realize it and submit. If a friend asks you to drink, say "No; I am a drunkard, and cannot afford to undo what I am doing to cure myself. After this is once said it is easy to say it again and to remember it all the time. All your friends will help you, even your bar-room friends, and will cease to tempt you. It may be that this will not succeed and that you need some one to help you, (I don't mean a wife). If you cannot resist the appetite, after

understanding the nature of it, you must change your surroundings. Go to some quiet resort where the physician in charge makes a business of treating such cases, and will keep you out of harm's way and will fortify you with useful and honest information on the subject until you feel strong enough to carry on the fight alone, and, forever after, you must not have a strong faith that you are cured, but rather a haunting, insistent fear that you are not. You must realize that the fight is all your own, and must constantly fear a relapse. When tempted, flee, and say, with Helena: "Better 'twere I met the ravening lion when he roared with sharp constraint of hunger; better 'twere that all the miseries which nature owes were mine at once," rather than yield, and next morning have to lament with Othello's captain: "Oh that men should put an enemy into their mouths to steal away their brains." Your friends can encourage, direct, and remind, but they cannot cure. Quack cure-alls ask for your money and confidence and promise to cure you; they are but doctoring their own pockets. Bad habits cannot be cured with drugs, and their promises are palpably absurd and intentionally false. Keeley did not begin by curing the poor in hospitals and trying to make a reputation among those who knew, but he adopted the old plan common to the quack consumption cure and the quack paralysis cure and the quack cancer cure—the plan of playing on the last fond, desperate hopes of suffering mothers and wives and daughters and friends, and he owes his success in accumulating a fortune solely to the use of printer's ink. By making his absurd remedy a fad, he induced many to go there who were not extreme cases: men who would, but for the fashion, never have admitted that they had need of a sojourn in one of the honestly conducted institutions of the land. For this give him credit. He needs it to offset the incalculable harm he did in teaching a lot of people that a habit can be cured with a drug; that responsibility can be shirked by paying money; that all can drink now because there is a gold cure in the land, which, for a mere song, will wipe out all evils done. However, quacks and dogs must have their day, and it is not difficult to read in the blaze of new miracles the passing of Keeley. No; the cure lies in ambition, hopeful aspiration, love of family, social and business ties, and the work is all the patient's own. Naturally there are few cures of well established cases. Many, from their very occupations and walks in life, are inevitably doomed from the start. Nearly all barkeepers, bakers, and Turkish bath attendants, from working in hot, damp rooms, inevitably must have drink

to combat the physical exhaustion, just as nearly all Caucasians must drink when they are in the tropics. The physical exhaustion is such that they cannot live without a stimulant. Life would not be worth living without it, and this last is true with many among us. The saddest cases we have to deal with are those who, though they may yet be young, have no business nor talents to exercise; small intelligence and little education; no tastes nor aspirations; no pleasures nor company to be found anywhere but in the barrooms; no family nor business that they care for, and no society that cares for them. Maybe an old mother weeps and prays, or a miserable and lonely wife starves on in silence. King Alcohol is killing off the unfit, and these, so far as our present knowledge extends, cannot be reclaimed from that class. Mental treatment applied as prevention is the only thing that can save, and by mental treatment I mean education, not hocussing. The human mind, no matter how much or how little there may be of it, must have occupation in good habits to keep it from forming bad ones. Idleness, lack of proper direction, lack of motive, is the primary cause of all bad habits. Children should early be taught industry, application and responsibility. The child of five should have some daily useful task that must be performed. Such early discipline makes self-control later in life easy and natural. A child, so disciplined, by the time he reaches the age of fifteen, will find that there are not hours enough in the day to apply to the many pleasurable interests that occupy his mind. He will see that happiness lies in useful work—work which brings results. He will not have the cart before the horse, like those who look on work as punishment double distilled.

Many children, again, through necessity or ignorance of their parents, are compelled to do aimless, meaningless drudgery, which is miscalled work (Tolstoi's idea of work); it brings no delightful results, no happiness. It has at best a vague, unsatisfactory, meaningless promise of far-off benefit; and often again it is coercion pure and simple and promises nothing at all. They grow up with but one idea of happiness, and that is joyful relief from what has been mis-called work. The extreme example of this lack of training is the tramp who carries the conception to its logical conclusion and forever after refuses to hit a lick. A certain amount of drudgery is a good thing, too. It is well for everybody to learn to stand punishment (as the prize fighters say) when they are young. The human mind is so constituted, however, that it cannot live upon it. There are many patient drudges who lead perfect lives, but there is a

reward somewhere for the pains they are taking. It may be they are in a big factory filing away at the same little screw year after year with no hope of promotion, but there is an escape valve to such a man somewhere that makes it possible for him to keep at this ceaseless grind. He has either some worthy object for which he is saving his money, the delightful anticipation of which fills his mind—a wife, mother, or sister for whom he loves to labor—or lacking these he takes recreation with his kind in the bar-room, the only place where a poor, ignorant, friendless, unwashed son of Adam can find that relaxation without which man cannot live. The negro laborer works all the week sustained by the anticipation of the leading part he will take with his brand new razor in Saturday night's dance or crap game—the only pleasure and recreation with which he is acquainted. Charity prompts us not to make him play our game until he has at least learned of its existence. Clubbing the poor and ignorant man and working him on the streets will not lead him any faster toward ping-pong and pink-teas. Prohibition of the crap game is just as foolish as prohibition of whiskey selling, which, as the Kansas poet hath it, "Is the last fond hope which weak minds have for getting into office." As long as men want whiskey and craps they will have them, and I am sure they ought to have them until they can rise to higher ideals of happiness and hope in present things. Surely it is not right to fine them for infringing our moral code, in this respect, and thereby take the bread out of the mouths of those who are dependent on them for support. Gambling parties and drinking parties in high society are not interfered with as long as they do not cut and shoot each other; and the same charity ought to be extended to the poor and ignorant whose resources for amusement are so much more limited.

My advice to women is to discourage the punch bowl at parties and to discard the sideboard stimulants at home, or at least keep them locked up; don't marry a spree-er, or a steady drinker, if you know it, and keep the whiskey bottle out of sight of the children. It is not good medicine for any known disease, and they never need it. It will not do to go to extremes, however, and be fanatical and separate yourselves from your kind:

> **This world "is not for angels who wear laurels,**
> **But for men with woes and quarrels,**
> **Men of vice as well as morals,**
> **Men of grief as well as mirth."**

Remember that the great majority of men drink, socially; and that the vast majority of these are strong physically and mentally, and as a rule, are better and safer in doing the work of the world and carrying its responsibilities than are the weak-minded cranks who howl for total abstinence and prohibition. A few only of these strong men go down at once, and only a few more when the stress of sorrow and monotony of middle life come. Their greatest harm shows up in the second and third generation, and in the example they set for young admirers to pattern after in this, and it is this last responsibility that women can teach their men friends to feel. A mother can more effectively show her lord of late hours what she thinks of it by jealously guarding her children from the sight and smell of whiskey, even when they are sick, than she can by sitting up to lecture him, "nursing her wrath to keep it warm." It may be, too, if she pursues this plan, he may in time prefer home to poker parties. Again, if mothers can start the boys and girls right, the girls can do a great deal toward keeping them that way. King Alcohol is killing off the unfit, and the day will come, judging from the present trend, when the race will be immune to the appetite for alcohol, or to the effect, one cannot in truth be sure which. It is the duty at present, however, of every well-balanced man and woman to try to preserve the fit and render fit the unfit. Women should teach their men friends that they hold the alcohol *habit* worse than anything, because it paves the way for every evil. Of course, for a woman to accomplish any decided good in such teaching, she must be in touch and sympathy and friendly relationship with men who need her support. She can neither isolate herself from society on account of her feelings of disgust for all people who are not as good as she thinks they ought to be, nor can she be merely a part of the paint on society's running gear; she must be an active, substantial part of the running gear itself, and that, I take it, is what every well-raised young girl aspires to be. Such a woman, whose position is always understood and yet does not offend—one who, out of pure goodness of heart and intelligence, can lead her friends toward the good without their shying—will state her position plainly and rationally upon this subject and will, if necessary, dismiss her best friend with the sad words of Queen Katherine: "That you would love yourself, and in that love not unconsidered leave your honor, nor the dignity of your office, is the point of my petition."

MONITOR'S ADDRESS.

By Thomas Duke Parke, M. D., of Birmingham.
Grand Senior Counsellor of The Medical Association of Alabama.

Mr. President, Ladies and Gentlemen:

Ethics is defined to be the science and art of conduct. Ethical or moral conduct is conduct that results in the welfare and happiness of man, either immediate or remote. Unethical or immoral conduct, that which results in the unhappiness and misery of man, be it immediate, or be it remote. This, in its ultimate analysis, has been the test of conduct under all the ethical systems of all times and places. It is axiomatic that ethical conduct, crude though it be, is essential in order that men may live together in families, in tribes, or in nations.

Sub-ethical conduct is essential even to gregarious life among the lower animals, for, if members of a flock or herd will not forego selfish aims for the common benefit gregarious life would not have been possible. The members of the herd must assist each other when attacked by the common enemy. Some member of the flock must remain on watch while the others feed—must, in that far, practice unselfishness.

It is evident that experience alone could have determined for our early progenitors whether a given course of conduct would result in welfare or in ill to the individual or to the tribe. The ethics of homicide, of theft, of the basic rules of conduct, could only have been developed by primitive man out of his hard experience.

The ethical conceptions of the men of the stone age could not have compared with the ethical conceptions of men who had discovered metals and an alphabet.

From the earliest days of crudest ethics, from the days when the ethics of our savage ancestors approximated that of the gregarious animals—every discovery—every extension of knowledge has, directly or indirectly, tended to widen the field of ethics. However unrelated it might seem at the time, sooner or later its ethical value, great or small, appears.

The toy battery of Galvani was without ethical import; but it has led to the telegraph, to the telephone, and to the wireless telegraph. Without these, and other material discoveries, it is

safe to assert that international ethics would not have developed to its present proportions, and that The Hague Tribunal, for international arbitration, would not be an historical fact. Long centuries ago it was discovered that objects were magnified when looked at through a bi-convex glass. From this, by slow evolution, came the microscope. The microscope alone permitted Dr. Robert Koch to demonstrate that the tubercle bacillus is the cause of tuberculosis. Further research demonstrated the infectiousness of tubercular sputum. As a consequence of these discoveries, it has become an ethical question whether a consumptive patient shall be careless of his expectoration and thus run the risk of infecting his associates, his wife, his child.

By means of the microscope, the French physician, Laveran, in 1881, demonstrated the plasmodium malariæ to be the cause of malaria. Later research, applying the inductive methods of science, demonstrated that the female Anophele mosquito is the means of transmitting the disease to man, and that every malarial patient becomes a menace to his associates in the presence of Anophele mosquitos. This demonstration led, in turn, to the discovery, by American physicians, that yellow fever is transmitted by another mosquito—the Stegomyia Fasciata—and that every yellow fever patient becomes a menace in the presence of Stegomyia mosquitos. The microscope permitted Eberth to demonstrate that the cause of typhoid fever is a bacillus known by his name. Inductive research proved that these bacilli, taken into the system in water or food, will produce the disease, thus confirming the empiric observations of the earlier years of the 19th century.

What man, living at the time the properties of a bi-convex glass were first made known, or living at the time of the first crude microscope, could have dreamed that from these apparently trivial discoveries ethical developments of great moment would result. For him and for the people of his time, it was indifferent, ethically, what disposition should be made of tubercular sputum, of yellow fever patients, or of the discharges from typhoid fever patients.

To-day you will find, in your sanitary regulations, penalties attached to ordinances governing these matters. These ordinances represent the consensus of opinion of your committees that such violations are unethical. Why are these violations unethical? Simply because the welfare of men is jeopardized. All of us have read of the inhuman treatment given insane persons during many hundred years of European history. How they were exorcised, imprisoned, tortured, and even burned.

During the eighteenth century two or more observers in France and Germany made examinations of the brains of insane dead. In the closing years of the eighteenth century, while the French Revolution was in progress, the great French physician, Pinel, having confirmed the observations of those preceding him, that the brains of insane persons were diseased, drew the deduction that insanity is a disease of the brain, and, as a consequence, revolutioned the treatment of insane people under his charge in the Bicetre Asylum. This mere extension of human knowledge resulted, directly, in better ethics towards the insane. The people of the preceding generations had adhered to their cruel course for a thousand years, simply because they were ignorant of the facts—because their ignorance permitted them to believe that insanity was Demoniacal Possession. The four generations since Pinel have practiced better ethics towards the insane, not because they have been inherently more humanely disposed, but because they have possessed more knowledge.

During many centuries of European history, ignorance of the causes of pestilences resulted in the infliction of great cruelty—resulted in unethical conduct. Thousands of Jews, thousands of witches were murdered because they were believed to be the causes of these various epidemics. As increasing knowledge demonstrated these to be due to other—to natural causes—sanitation gradually took the place of persecution and the burning of witches.

Every member of this audience will recall the shot-gun quarantine against yellow fever; will recall, also, how emotions aroused by fear, crushed out every generous, every altruistic, impulse in whole communities. Ignorance of the facts involved in yellow fever prompted this course.

The discovery by Reed, Carroll, and Agramonte, already referred to, that the stegomyia mosquito, and not the air, is the medium of infection—will, in future, improve our ethics of yellow fever.

If these inductions, taken at random, lead us to accept the conclusion, heretofore stated, that every discovery, every advance of knowledge, tends to elevate our ethical conceptions and our ethical practices, then must we accept its corollary—that whatever tends to retard human progress is unethical, is immoral, in its tendencies and in its results.

A detailed rehearsal of the achievements of modern medicine can find no place in this address; nor is it needed. The daily experiences of this audience furnish proofs of the benefi-

cent progress of preventive medicine. Nor is it unlikely that the presence here tonight of some members of this audience furnishes living proof of the triumphs of Modern Medicine and Surgery. To every one here is known the truth that results are daily achieved which were not dreamed of by our grandfathers.

To what is this progress due? Is it not evident that it was made possible by general progress—by the inventions and discoveries incident to general progress? Possibilities have become realities by the adoption into medicine of the methods of science and of the spirit or mental attitude underlying these methods. But for the adoption of secular inventions, but for the adoption of the methods and discoveries of general science, medicine would still be floundering in the empiricism and in the contending schools that marked her history during the centuries.

It does not dim the glory of medicine or of medical discoveries to freely make acknowledgment of the great obligations our profession owes to non-medical inventions—to philosophy —to general science.

Among non-medical inventions may be instanced the thermometer, the microscope, the laryngyscope, the spectroscope, the x-ray. These, to every physician, are enough to indicate our great indebtedness to non-medical inventions. To general chemistry, medicine owes organic chemistry—from which physiological chemistry has been evolved. Long, Morton, and Jackson utilized a three century old contribution of general chemistry, to-wit., sulphuric ether, when they gave anæsthesia to the world.

We are indebted to botany, to biology, to all the collateral sciences. To the non-medical scientist, Louis Pastuer, medicine owes a debt that cannot be over-estimated. He will stand out in the history of medicine as the fountain source from which proceeded the revolutionary progress of the latter part of the nineteenth century. The methods he extended and originated, the results he achieved, have led to the most important triumphs of recent times. Joseph Lister studied in the laboratory of Pasteur, and, applying the methods and the discoveries learned there, gave antiseptic surgery to the world.

Pasteur's work in biology led him from fermentation to the silk worm diseases, to anthrax in sheep, to rabies in man. This was work in virgin forests; he was forced to cut down his roads as he went; he was a pioneer. Other investigators, profiting by his labors, have given us antitoxine for the treat-

ment of diphtheria; antitetanic serum for the prevention of tetanus; and the studies on immunity which promise such beneficent results for the future.

After making full acknowledgment of indebtedness there still remains glory enough for medical discoveries. In every department of human endeavor, men are expected to profit by the accumulated knowledge that is their heritage, and so, in appropriating the discoveries of science and philosophy, medical men have but come into their own.

Before taking up the ethical value of the mental attitude underlying the methods of science, let us present contrasts showing the practical value of this mental attitude.

Some four thousand years ago, we are told, books of customs and ceremonials were adopted by the Chinese and have been reverenced by them from then until now. These books contained treatises on the theory and practice of medicine and surgery, and although commentaries have been accumulating during the centuries they have only been commentaries on the original books. These books forbade dissection of the human body. Consequently, as a result of this prohibition, their ideas of anatomy are grotesque. They are said to hold that the small intestine connects directly with the heart, the large intestine with the lungs, and that the liver is the seat of the soul—the source from which proceed all our generous impulses.

Their pathology and their materia medica, inherited from those remote times, are equally crude and defective. Surgery was and is reduced largely to the use of acupuncture and the moxa, for the ancient books taught that if a man suffered the loss of any part or portion of his body his ancestors would not receive him in the future world. During all this time, Chinese medicine and surgery have stagnated—stagnated as a result of this national mental attitude.

The Japanese, since the opening of their kingdom to the world—some fifty years ago—have been fortunate enough to possess a different national mental attitude, the attitude that prompts them to ask of every question presented: Is it true? Is it for our welfare? Unlike their neighbors, the Chinese, they do not first ask: Does it conflict with our inherited opinions and practices? The possession of this mental attitude—of this scientific attitude—has given to Japan the blessings of modern medicine and surgery. It has permitted some of her sons in the brief period which has elapsed since Japan threw off her ancient medical ideas to make important original discoveries in medicine.

These references to Chinese medicine naturally suggest Homeopathy. The Chinese bow down to the fetish of their ancient books; the Homeopaths bow down to the fetish of a theory of disease. All the Chinese books have been commentaries—all the Homeopathic books have been commentaries.

Homeopathy has made not one scientific discovery—can never make one because it is absolutely and fundamentally unscientific. So soon as a homeopathic student adopts the inductice methods of science, that is, leading from facts up to theories, and not from theories down to facts, he ceases to be a follower of Hahneman—he gives up his trade mark. As a protest against the over-medication of those therapeutically strenuous days, this cult—for such it was and is—unquestionally accomplished great good, but the scientific invasion of medicine sealed its doom many years ago. It has no future. It is an anachronism, as is the American Indian in this day of progress.

Let us now seek the ethical value of the methods of scientific medicine—of science. The inductive methods, though dating back through Bacon even to Aristotle, and employed to a greater or less extent in medicine throughout the centuries, by Harvey, John Hunter, Jenner, Pinel, were firmly established for all time by scientists of the nineteenth century—notably by the remarkable quartet of English scientists who have so strongly influenced the thought of the world. These inductive methods have for their aim and object the elimination of error—the establishment of truth—of facts. An experiment or an observation is made; in the effort to eliminate errors of conclusions from these observations, or these experiments, other control experiments must be instituted. Working hypotheses—theories—are employed, but the true scientist holds to his theory only so long as it cannot be disproved.

Just as soon as one fact can be established which will not fit into the theory, the theory is rejected. Inductions, observations, experiments led Metchnikoff to formulate the theory that the white blood corpuscles constitute the army of defense of our systems against invading armies of disease germs—that these white corpuscles of the blood attack and overcome the invading host, if the battle is to be gained.

Ehrlich has made other observations which seem to contravene, not the observations, but the deductions, of Metchnikoff, and has formulated the side chain theory of immunity. Any established fact which will not be explained by this side chain theory will cause it to be rejected. Again, when a new ob-

servation is announced in science, it is not accepted as final, but other workers repeat the experiment. Any fault of technique, any error of conclusion, is pointed out. Mere authority may not be bowed down to in science.

This constant aim to seek the truth, to eliminate error, must tend to cultivate habits of honesty, to make thinking clearer, to make thinking more honest, must tend to build up and to strengthen that *summum bonum,* human character. The ethical value of the mere mental attitude of scientific workers, the psychology of science, if you will, is beyond computation. So accustomed are we to it, that we are apt to overlook its vast significance until we stop to consider the harm done this world of ours by the contrary attitude—the attitude of preconceptions, the attitude typically presented by China.

Nor may we lose sight of that altruistic sentiment of the sciences which prompts the giving of discoveries, freely, to the world. Vaccination, Anæsthesia, Antiseptic Surgery, Antirabic Inoculation, Antitoxine, the X-Ray, Radium, were free gifts to the world.

Modern medical education involves prolonged training in these scientific and ethical methods. It involves the recognition that the great value of statistics rests solely on their truth; that misrepresentation and deviation from the truth invalidates this value. It involves the continual recognition that conformity to truth in the description of disease symptoms, in the description of the history of disease, of the pathological findings in disease, of the treatment of disease, alone gives value, alone furnishes a basis for reliable deductions.

The training of the clinics tends to establish the habit of concentrating attention on the solution of the problems presented by each case, and, in that far, for the time being, forgetting self. How different is the typical quack! His thoughts are so centered on self, so occupied with the effort to impress his patient, that he does not study his case, does not profit by the experience offered, and does not become proficient. The two words Proficiency and Quackery are never associated in our thoughts. He fails to recognize the vital truth that, in the long run, his own interests and his patients' interests are identical. Modern medical education involves the continual repetition of this vital truth. Between these two types we find all gradations. It will not be contended that every physician or surgeon is ethical in his profession or in his private relations because he has received modern medical training. In our world of relativities, human character, human

conduct, is dependent on too many hereditary and environmental factors to permit of absolute conclusions for the individual. Hence, tendencies have only been dealt with. It is contended, however, that modern professional attainments, and the training incident to acquiring these, tend to elevate the ethical conceptions and the ethical practices of every member of the profession.

A Chinese physician, practicing in San Francisco, is called to a case presenting the symptom—fever. This fever may be caused by a number of conditions. The Chinese doctor, ignorant of the nature of disease, is forced to look wise and guess. The well equipped physician in San Francisco, called to such a case, employes the means medical progress has furnished him for making diagnoses. He will weigh the history of the case —examine the blood, sputum, urine, feces, as may be indicated; employ the means which physical diagnosis affords him for the examination of the internal organs. Which of these two men, extreme types of past and present, will have the greater temptation to act dishonestly, which will tend to be the more honest with himself and with his patient? Two physicians are practicing obstetrics—the one thoroughly equipped in modern obstetrical technique—the other adhering to the methods of bygone days. Which of these, aside from the implied contract to give his patient the benefit of contemporary advance, will have the more frequent occasion to explain, to hedge, to equivocate; which, other things being equal, can afford to be the more honest with self and patient? Which will have less temptation to be unethical?

The ability to correctly diagnose, and the technique of operating for, appendicitis have been markedly improved in the last ten years. Ask any surgeon of your acquaintance whether he can look facts in the face any straighter, whether he has less temptation to attribute bad results to other than their true causes, whether he is more honest with himself than he was ten years ago, when less was known by him, and by his profession, of appendicitis?

The treatment of diphtheria has been revolutionized in the last ten years. Ask any physician of your acquaintance whether his position in the event of a fatal ending would present a more ethical tendency today than it did ten years ago. Today he has but to say: "I injected antitoxine as soon as called; science recognizes no other treatment." Ten years ago your acquaintance and his competitor were treating cases differently. The case might have had another ending in other

hands. Underneath this condition lay unethical temptation. Every advance tends to elevate our ethical practices.

We have adverted to some of the medical and surgical discoveries, we have traced some of the beneficent ethical results which have come to us and to the world, from the scientific invasion of medicine. As this invasion shall conquer and occupy more and more of the still large domain of empiricism, we are warranted, by every analogy, in predicating not only ever increasing alleviation of the ills of humanity, but that the ethical conceptions and the ethical practices of medical men will correspondingly advance. So beneficent has been this invasion, so great the debt Medicine owes to general science, so great the prospective debt, that the distrust of, the hostility to, science, so frequently encountered, should find no lodgment in the mind of any modern physician.

ON THE CARDIAC AND VASCULAR COMPLICATIONS AND SEQUELS OF TYPHOID FEVER.

THE JEROME COCHRAN LECTURE.

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Last summer on receiving the very kind invitation to speak before you today, it seemed to me that the most profitable subject to discuss would be that in the study of which I was at the moment engaged, the cardiac and vascular complications and sequels of typhoid fever.

A glance at the extensive literature concerning this subject cannot fail to impress one with the considerable variance of opinion existing between different observers as to the frequency and extent to which the heart and vessels suffer in this malady.

(1) THE HEART:

(a) *Endocarditis.* Concerning the frequency of endocarditis in typhoid fever there is little difference of opinion. Most observers agree in regarding it as a rare and unimportant complication. Among the 2,000 Munich necropsies (Holscher, Munchen, medl. Wchnschr., 1891, xxxviii, 43-62), there

were but 11 instances of endocarditis. Circde (Bull. med., 1889, 1392), Viti (Atti d. r. Accad. d. fisiocrit. di Siena, 1890, 4 S., II, 109), Carbone (Gaz. med. di Torino, 1891, 122) and Vincent (Mercredi méd., 1892, 130) have obtained typhoid bacilli from endocarditic vegetations and Lion (Essai sur la nature des endocardites infectieuses. 4°, Par., 1890) has produced, experimentally, an endocarditis of the aortic valves in rabbits after intra-venous injection of typhoid cultures. The majority, however, of the cases of endocarditis which occur as complications of typhoid fever are probably the result of secondary infection.

(b) *Pericarditis.* The same is true—even to a greater extent—of pericarditis.

(c) *Myocarditis.* With regard to the myocardial changes, there is a most extensive literature dating from the early part of the last century. The recent investigations of Romberg (Uber die Erkrankungen des Herzmuskels bei Typhus abdominalis, Scharlach und Diphtherie. Deutsch. Arch. f. klin. Med., 1891, xlviii, 369; 1892, xlix, 413) Landouzy and Siredey (Contribution a l'histoire de l'artérite typhoidique; de ses conséquences hatives (mort subite) et tardives (myocardite scléreuse) du coeur. Rev. de méd., Paris, 1885, v, 843 Landouzy: La fiévre typhoide dans ses rapports avec l'appareil vasculaire et cardiaque. Gaz. d. hóp., Paris, 1886, lix, 323. Landouzy et Siredey: Etude sur les localizations angiocardiaques typhoidiques, leurs conséquences immediates, prochaines et éloignées. Rev. de méd., Paris, 1887, vii, 804, 819) Renaut (Les myocardites aigués. Congrés Francáis de médicine—V session, Lille, 1889; Paris, 1889, ii, 1-83) Mollard and Régaud (Etat des arteres du coeur dans les myocardites aigués. Congrés Francáis de méd., 1899, v, 280. Mollard. Les troubles cardiaques dans la convalescence de la fiévre typhoide. Presse méd., Paris, 1900, i, 19-22), Giacomelli (Il miocardio nelle infezioni, intossicazioni avvelenamenti. Ricerche anatomo-patologiche e sperimentali, Policlieico. Roma, 1901, viii, M., 145-455) and others have shown clearly that in some instances the change may be sufficient to play a grave part in determining the fatal result of the disease. Moreover, the extent of these lesions is sometimes such that it can scarcely be doubted that in cases which recover, grave sequels must appear in after years. Great differences of opinion, however, exist both as to the relative frequency of acute myocarditis, its relation to the clinical manifestations of the disease and the frequency with which it results in serious permanent damage to the heart.

What clinical symptoms justify us in assuming the existence of an acute myocarditis?

How often does typhoid fever result in permanent damage to the heart?

These are questions with regard to which there is the widest difference of opinion.

It must be acknowledged that the disease has not in the past been regarded as an important element in the production of chronic cardiac or vascular defects. A few observers, however, have been outspoken in their opinion that typhoid fever has an influence of real significance in the production of acute and chronic myocarditis. Chief among these have been Landouzy and Siredey, and Mollard and Régaud.

The emphasis which the first of these observers places upon the effect of typhoid fever upon the heart and vessels is strikingly shown by the following words from a communication made some eighteen years ago, (Landouzy, *Op. cit.* 1886): "The day when hygiene shall prevent typhoid fever, it will not only save from death each year more than one thousand Parisians, it will save more than a thousand individuals from disease of various systems, especially from diseases of the heart; that is, it will save each year at least a thousand invalids."

These are striking words. Are they justified by fact? There are in literature few, if any, systematic clinical observations with regard to the point.

(2) THE ARTERIES:

A survey of the literature with regard to affections of the arteries in typhoid fever is of considerable interest. Little attention has been given in this country to the occurrence or significance of acute arteritis in typhoid fever, to its influence upon the course of the disease, or to its later sequels. The chapter on typhoid arteritis and arterial thrombosis in most text books is extremely short, and, yet, there is a large and interesting literature upon the subject. (For references, see: Thayer, On Arteritis and Arterial Thrombosis in Typhoid Fever. The New York State Journal of Medicine, 1903, III, 21). Gangrene of the extremities has long been recognized as an occasional complication of the disease and the fact that this is, in many instances, due to antochthonous thrombosis associated with an acute arteritis has also been pointed out.

That acute endarteritis may occur in the aorta and smaller arteries in connection with typhoid fever, as well as in other acute infections, is mentioned by many observers, and yet its extent, its frequency, its possible influence in determining grave

local or general disturbances in later years, have not to my knowledge been systematically investigated.

Curschmann (Curschmann Der unterleibstyphus, 8°, Wien, 1898) in his recent work says: "I would emphasize expressly that in a large number of post mortem examinations in cases of typhoid fever in which I have noted the condition of the coronary arteries, I have never found these diseased"—a statement considerably at variance with our experience.

(3) THE VEINS.

With regard to the venous complications of typhoid fever much more has been written and much more is known. The venous thromboses so frequent, especially in the lower extremities, which, since the time of Virchow, have been regarded as essentially marantic, are now again more generally considered as secondary to actual phlebitis due in some instances to the typhoid bacilli alone, in others to secondary, mixed infections. Haushalter (Phlegmasia alba dolens et bacille typhique dans la fiévre typhoid. Mercredi med., 1893, 126) obtained typhoid bacilli in pure culture from the inflamed wall of the femoral vein and was able to demonstrate them locally in the external coat of the vessel.

In such cases it has been generally assumed that the exciting cause of the thrombosis was afforded by the mechanical effect of actual anatomical lesions in the vessel wall. That other influences than purely mechanical changes in the wall may play an important part in inducing thrombosis in both arteritis and phlebitis has been shown by Flexner (Univ. of Pennsylvania Med. Bull., 1902, xv, 324) and is borne out by my own observations. (Thayer, On Arteritis and Arterial Thrombosis in Typhoid Fever. The New York State Journal of Medicine, 1903, iii, 21).

In view of these facts, it occurred to me that light upon some of the unsettled points might be obtained by a study of the material which has accumulated in the last fourteen and a half years in the clinic of Professor Osler, at the Johns Hopkins Hospital, and in the laboratory of the Pathological Department.

The plan which I laid out for myself was as follows:

(1) A study of the clinical records with regard especially to the cardiac and vascular symptoms and complications.

(2) A consideration of the anatomical records of those fatal cases in which necropsies were made.

(3) An investigation into the condition of as many of our old patients as could be examined.

At the outset I fully realized that the fulfilling of this whole task which should involve a careful histological study of our anatomical material, was more than could be accomplished in the time at my disposal. It has, however, seemed to me that an analysis of the question from a standpoint of clinical observation and a study of the gross pathological lesions could not fail to reveal facts of value and importance. These considerations I have the honor to present to you to-day.

I. GENERAL CLINICAL ANALYSIS.

In the period between the fifteenth of May, 1899, and the first of January, 1904, there were admitted to the Johns Hopkins Hospital 1,458 cases of typhoid fever.

Of these 132, or 9.05%, died.

This rather high percentage is due to the fact that a considerable number of cases were brought to the hospital in a practically moribund condition.

In analyzing the clinical records of these cases, most of which I have had the good fortune to observe personally, I have selected for consideration those of the common cardio-vascular manifestations which might be regarded as *possibly* indicative of actual anatomical involvement of the heart or vessels, as well as the more definite vascular complications.

(1) THE PULSE.

(a) *Rapidity.* Of these 1,458 cases there were 220 or 15. + % in which the pulse was above 140. 46 of these patients were under 15 years of age.

Of the 174 cases above 15 years of age, 86, or nearly 50%, resulted fatally.

Seventy-seven cases showed a pulse of over 150; of these 55, or 71.4%, resulted fatally.

In 51 cases there was a registered pulse of above 160, with a mortality of 35, or 78%.

In 6 cases there was a pulse above 170; two-thirds of these were fatal.

In 2 instances a pulse of 180, or above, was recorded; one of these recovered.

In 2 instances the pulse was uncountable; both patients died.

(b) *Bradycardia.*

In 117 cases a pulse rate below 50 was noted. In all of these instances the bradycardia was a feature of convalescence. In one case only did a relapse follow. All of these patients recovered.

In 6 cases a pulse below 40 was noted; the lowest recorded pulse rate—observed in two cases—was 35.

(c) *Arhythmia.*

Irregularity (it is evident from the remarkably low figures that only instances of rather striking irregularity were recorded) of the pulse was noted in 29 instances, of which 10 resulted fatally.

In many of these cases the irregularity was associated with extremely rapid action of the heart and grave general symptoms.

Of 13 instances where the pulse was above 140, 9, or 69.2%, ended fatally.

In the remaining 16 cases, the irregularity was noted in several instances at the height of the disease; one of these resulted fatally. In the majority of cases, however, it was a feature of convalescence, being associated in 4 instances with a pulse of under 50.

(2) HEART SOUNDS.

Of the 1,458 cases the heart sounds were clear throughout in 1,120.

In 333 instances, or 22.8% of the cases, cardiac murmurs were heard at one time or another.

In 16 patients the murmurs were regarded as indicative of preëxisting valvular disease of the heart.

The lesions in these cases were as follows:

Mitral insufficiency	10
Mitral insufficiency and adherent pericardium	1
Mitral stenosis	2
Mitral stenosis and insufficiency	1
Aortic insufficiency	2
	16

In addition to these cases there was one instance of Grave's disease with tachycardia and a systolic murmur at the apex.

Of the 16 cases of valvular disease of the heart but 2, or 12.5%, died.

In the remaining 316 cases the murmur was systolic in 312 instances, diastolic once, while in 3 cases both systolic and diastolic murmurs were audible.

ANALYSIS OF THE CASES IN WHICH SYSTOLIC MURMURS ALONE WERE HEARD.

Out of the 315 cases in which systolic murmurs were heard, there were two in which the record as to the localization of the murmurs was not satisfactory.

In the remaining 313 cases the murmur was heard:

At the apex alone in	87 cases
At all four orifices in	66 cases
At the apex, tricuspid and pulmonic areas in	49 cases
At the pulmonic area alone in	35 cases
At the aortic and pulmonic areas in	21 cases
At the pulmonic area and apex in	20 cases
At the apex, pulmonic and aortic area in	11 cases
At the apex and tricuspid areas in	9 cases
At the pulmonic and tricuspid areas in	7 cases
At the aortic, pulmonic and tricupsid areas in	4 cases
At the aortic area alone in	1 case
At the apex and aortic areas in	1 case
At the tricuspid area alone in	1 case
At the apex, aortic and tricuspid areas in	1 case
	313 cases

Cases in which the systolic murmur was heard at the apex.

There were 244 cases in which the systolic murmur was heard at the apex of the heart.

In 56 of these cases it was transmitted outward as far as the anterior axillary line.

In but one case was it noted that the murmur was audible in the back.

Time at which the systolic murmur at the apex was first observed.

In all of these cases the most detailed note was made usually upon admission to the hospital, or within the several following days. Unfortunately, in many instances, careful notes upon the heart were not made later, and only in a rather small fraction of the cases was there a final record upon the day of discharge. It is ,therefore, impossible to say with accuracy at just what period in the disease the murmurs developed. As a result of the fact that the first note was usually the most careful, the proportion of cases in which the murmur was audible on entrance is probably unduly high.

This was the case in 199 of the 244 cases.

The period of the disease at which the systolic murmur at the apex was first noted is illustrated by the following table:

TABLE I.

Illustrating the period at which the systolic murmur at the apex was first observed.

	Weeks.											
Prodromal period...	1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	?	Total
2	78	92	38	22	4	1	2	3	0	1	1	244

The table shows, as one might expect, that apical systolic murmurs are present with the greatest frequency during the height of the disease.

The following table shows the time of development of the murmur in 45 cases in which an apical systolic murmur, absent on admission, appeared later in the course of the disease.

TABLE II.

Showing the time of development of the apical systolic murmur in 45 cases in which on entrance, the heart sounds were clear.

1st	2d	3d	4th	5th	6th	7th	8th	9th	10th	
6	11	9	11	2	1	2	2	0	1	=45

The figures in this table are closely similar to those preceding. The slightly greater prevalence of murmurs in the first week in Table I is doubtless due to the more careful initial examinations, as observed above.

Of the 244 cases in which an apical systolic murmur was heard, this murmur disappeared before discharge in 107 instances; it was present upon discharge in 31 (in one of these instances the patient left on the day of entrance) cases; there was no note in 106 cases.

Of the 45 cases in which the systolic murmur at the apex developed in the hospital this murmur disappeared on or before discharge in 17 cases; it was present on discharge in 10 cases; there was no final note in 13 cases.

Character of the murmur in those cases in which it persisted upon discharge from the hospital.

In the 31 cases in which an apical systolic murmur was observed during the attack, persisting in some form, on discharge, the murmur remained at the apex in 28 instances; in one instance it was audible only in the pulmonic area; in one, in the aortic, and in one, at both areas at the base.

In 2 of the 28 cases where the apical murmur persisted on discharge, the sound was louder at the base; in 1 instance it was louder over the right ventricle; once it was loudest in the aortic area—a clear case of aortic stenosis. Two further cases

left rather early in the course of the disease, on the day on which the note was made. In 3 cases the murmur, on discharge, was transmitted to the axilla.

In 10 cases a systolic murmur at the apex developed after admission to the hospital, and persisted in the same area at the time of discharge; in one of these instances, however, it was more marked in the pulmonic area.

There can be little doubt that the cause of these apical systolic murmurs is to be sought in the majority of cases in the relaxation of the heart muscle with consequent dilation of the mitral ring. But the fact must not be lost sight of that a certain proportion may be instances of endocarditis. The fact, which will be mentioned shortly, that out of 95 necropsies there have been three instances of acute endocarditis, all unsuspected *intra vitam*, should be sufficient to convince one of the necessity of considering this possibility in every instance where cardiac murmurs persist after recovery from typhoid fever.

The recognition of this fact should suggest to the physician the wisdom of keeping old typhoid patients under observation during a considerable period following the attack just as in the case of diseases more commonly associated with endocarditis.

The Basic Systolic Murmurs.

The cause of the basic systolic murmurs can hardly be discussed at length in a communication of this nature. Their frequency and slight prognostic significance are well known. One may perhaps recall the happy comment made, I think, by Broadbent, who, after considering the anatomical and physiological relations of the aortic and pulmonic orifices, observed that it is not the fact that systolic murmurs are so frequently heard in these regions that is remarkable; it is rather that they are not always present.

In but one case (No. 44,724) was the basic systolic murmur regarded as indicative of organic lesion. This was a clear example of aortic stenosis.

DIASTOLIC MURMURS.

In 4 instances (Nos. 4,020, 18,118, 36,484, and 41,270) diastolic murmurs were audible.

Case I. (No. 4,020). The first case was that of a man, 20 years of age, without history of previous illness. On entrance a faint systolic whiff was heard at the pulmonic cartilage. The case was one of considerable severity. On the 27th day of his illness a soft diastolic murmur was heard in the third left space at the sternal bor-

der. Two days later the following note was made: "The diastolic murmur noted the other day is very audible in the second and third interspaces, not at the aortic cartilage. There is a soft systolic just within the apex." The patient made a slow but complete recovery; unfortunately no further notes were made on his heart. It has been impossible to trace the subsequent history.

Case II. (No. 18,115.) The second case was that of a man of 19, who entered the hospital on the eighth day of a severe typhoid fever. On entrance his heart sounds were clear. On the twelfth day Dr. Osler noted that a soft bruit was heard along the left sternal border. On the eighteenth day, with a very rapid pulse, a soft diastolic murmur was heard at the aortic cartilage. Unfortunately, no further note was made upon the heart. The patient died four days later, of perforation. At necropsy no abnormalities were noted in the aortic valves. The heart muscle was described as opaque.

Case III. (No. 36,484.) The third case was that of a young man of 22, with no history of previous illness, excepting an attack of typhoid fever five years before admission. On the eighth day of a typhoid fever of moderate intensity, a short, sharp murmur followed the second aortic sound and was transmitted downwards along the sternal margin. Five days later it was noted that the second sound was rather indefinite and "murmurish" at the aortic area, though no positive murmur was audible. A distinct systolic murmur was heard over the body of the heart and in the pulmonic area, fainter in the second right space. The patient made an uneventful recovery. No further note was made upon the heart.

Case IV. (No. 41,270.) A man of 40, who had rheumatism 23 years before, developed on the 11th day of a mild typhoid fever an apical systolic murmur, and on the 14th day, a diastolic, heard along the left sternal border, both of which cleared up before discharge. The apex, however, moved outward 2.5 cm.

In a very large number of cases in which a systolic murmur at the apex was not noted it is mentioned in the history that, at the height of the disease, the first sound was "murmurish," "feeble," "blurred," "indistinct," or "indefinite." Later, however, in all of these cases in which a note was made, the condition of the heart sounds was found to be normal.

In a number of instances reduplications of the first and second sounds were recorded, but sufficient attention was not paid to the study of reduplications to justify any conclusions.

3. PERICARDITIS.

There were but two instances of pericarditis among these 1,458 cases.

Case V. (No. 24,135.) The first case was that of a man of 20, who, on the 26th day of a rather severe typhoid fever, with pronounced nervous symptoms—delirium, subsultus, general tremor—showed, just outside the point of maximum impulse, a very distinct to-and-fro friction rub. For several days this increased in intensity and then gradually disappeared. The patient made an uneventful recovery.

Case VI.—(No. 30,666.) The second case was that of a colored man, 23 years of age. Early on the morning of the 25th day of his disease, after a tub, the patient began to complain of pain in the præcordial area and in the right upper chest. A well marked pericardial friction rub was audible, though no definite endocardial murmur could be made out. The patient grew rapidly weaker; an audible and palpable friction rub developed in the lower axilla and back, death following within twenty-four hours.

The necropsy showed, beside the lesions of typhoid fever, a fibrino-purulent pericarditis due to the softening of tuberculous bronchial lymph glands and perforation of the trachea, œsophagus and pericardium. The typhoid bacillus was obtained on culture from the pericardium, bile and spleen.

Case VII.—(No. 45,535.) A third case of pericarditis complicating typhoid fever is at present in the hospital.

The patient, a woman aged 29, entered the hospital toward the end of the first week of the disease. Four days before she had been seized with a stabbing pain in the region of the heart and sense of palpitation. On entrance there was a systolic murmur in the pulmonic area and a well marked to-and-fro pericardial friction rub in the præcordial region. No pleural friction rub was audible. Several days later evidences of a patch of broncho-pneumonia were to be detected in the left axilla. The cardiac dullness was increased, and the heart sounds became more muffled. Gradually, however, in the course of two weeks, the friction murmur entirely disappeared. The cardiac dulness diminished; the area of pulmonary consolidation cleared up, and at the present day the patient is in full convalescence.

4. ENDOCARDITIS.

Three cases of endocarditis have been discovered at necropsy. None of these three cases were recognized *intra vitam*. In

addition to these there were several cases in which endocarditis has been suspected clinically.

Case VIII.—(No. 10,131.) The first case has already been reported by Dr. Osler. (Johns Hopkins Hospital Repts., 1895, v. 467.) A. C., a colored girl of 20, was admitted to the hospital on the 7th day of her disease. Just before admission the patient had had several bloody stools, and within two hours after entry there were five more, which consisted almost entirely of blood. The heart's action was rapid, the sounds clear. There was a suggestion of embryocardia. The patient's condition which was very grave on entry did not change for the better, and she died on the following afternoon.

At the necropsy beside the lesions of typhoid fever it was noted that the heart was not enlarged. "All the valves were normal except the mitral. Along the edges of the leaflets of this valve are a number of translucent vegetations varying in size from the head of a pin to four or five times that bulk. These are comparatively recent. The heart muscle is dark, brownish red, and slightly mottled by patches of a lighter color." The aorta was normal, the coronary arteries normal.

Microscopically, the heart showed diffused fine fatty degeneration. Typhoid bacilli were cultivated from the spleen, liver and kidneys. Staphylococcus albus was obtained from the endocarditic vegetations.

Case IX.—(No. 28,194.) M. S., a man of 18, was admitted to the hospital on the fifth day of a very severe typhoid fever. The heart sounds were loud and clear on entry. Delirium soon developed and the pulse became rapid and feeble. On the following day a rather soft systolic murmur was heard at the apex, transmitted to the axilla. The second aortic sound was markedly accentuated. The patient's condition did not change essentially; the delirium and picking at the bed clothes continued. The leucocytes, which, on admission, had been 6,000 to the cmm., were on the 7th day, 17,000 and 28,000, and on the following day 18,600. On the evening of the following day, 18,600. On the evening of the 8th day the patient died. At the necropsy, which revealed the characteristic typhoid lesions, the following note was made upon the heart: "Along the edge of the mitral valve there is a row of minute dew-drop-like excrescences which are less than pin-head in size. These are fairly firm, not easily scraped off. They can, however, be pulled off with forceps. Smaller similar excrescences are found on the aortic segments. Otherwise the valves are delicate and apparently competent. The heart muscle is rather soft, natural in color. The vege-

tations on the mitral valve are on the auricular side. To those on the aortic valve there is attached a soft clot." The aorta showed slight fatty degeneration of the intima.

Cultures showed both the bacillus typhosus and staphylococcus aureus from the heart's blood, staphylococcus aureus from the vegetations on the aortic valve.

Case X.—(No. 44,240.) The third case, C. M., a man of 25, was admitted to the hospital in the first week of a very severe typhoid fever. He had always been strong, athletic, and vigorous. He had had measles in childhood, and bronchial asthma off and on for eleven years. He was very ill and delirious from the onset. The heart's action was rapid, the sounds, however, always clear. Four days after entry the first sound was reduplicated at the apex, the second at the base. Eleven days after entry a phlegmon developed in the left submaxillary region. This was opened on the following day, cultures showing staphylococcus aureus. Twelve days after entry the patient suddenly died.

Necropsy showed numerous small translucent vegetations along the line of closure of the anterior segment of the mitral valve. The heart muscle was rather soft, opaque and grey, with numerous more apoque, distinct grey spots. The anterior descending branch of the coronary artery showed many yellow flakes of sclerosis varying from 1 to 2 mm. in diameter. Almost the whole intima was converted into irregular yellow grey patches which were not much elevated. The walls of the smaller branches were also thickened. The aorta showed only slight thickening just above the valves. In the wall of the left ventricle near the auriculo-ventricular ring there were a number of small patches in which the muscle was completely replaced by grayish white, somewhat translucent fibrous tissue.

It will be noted that the presence of endocarditis was unsuspected during life in all of these cases. Indeed, there was nothing in the symptoms of the first or third cases which would have justified such a diagnosis. The development in the second case of the murmur in association with a marked leucocytosis might have suggested the complication.

In three cases there developed during the disease symptoms which persisted on discharge to an extent suggestive of an actual valvular lesion.

Case XI.—(No. 23,799). The first case, a girl of 9, was admitted to the hospital on the 31st day of her disease. She had had no serious previous illness. The first sound on admission was nearly re-

placed by a soft blowing systolic murmur which was heard, though less intensely, as one passed toward the axilla; lost in the anterior axillary line. It was also audible over the base and precordial region. The second pulmonic sound was somewhat accentuated. The apex was in the 4th left space, 6 cm. from the mid-sternal line. On the final note, over two months later, the point of maximum impulse was in the 4th space, 7 cm. from the median line and the murmur, which was rough and rumbling, entirely covered and followed the first sound; it was, however, of greater intensity in the pulmonary area and was lost beyond the anterior axillary line. The leucocyte count varied between 6,000 and 15,600.

It is of course possible in this case that the lesion may have preceded the typhoid fever, although there was no history of previous infections.

Case XII.—(No. 40,588.) M. S., a colored girl of 13, was admitted to the hospital on the 10th day of her disease. On entrance the heart sounds were clear at the apex and base. The leucocytes, which were 8,800 on entry, varied during the next several days, between 6,000 and 14,000. On the 19th day, without apparent cause, they were 18,600; on the 23rd day, 7,500. No further note as to the condition of the heart was made until the time of discharge, the 66th day of the disease, the 14th of perfectly normal temperature. On this date there was heard, at the apex, a very faint systolic murmur which was lost as the sternum was approached; it was, however, transmitted into the axilla as far as the mid-axillary line, and became intensified in the erect posture. The second pulmonic was accentuated. The pulse was 23 to the quarter, somewhat irregular in rhythm and volume, the irregularities mainly dependent on respiration.

The development and persistence in this case of an apical systolic murmur in association with a rather unaccountable leucocytosis may be regarded as suspicious symptoms.

Case XIII.—(No. 44,724.) The third case was that of a man of 18, who had previously suffered from measles as a child, and from some severe illness, the nature of which he does not know, at 4. He entered the hospital on the 9th day of a typhoid fever of moderate severity. On the 10th day the point of maximum cardiac impulse was in the 4th space 7 cm. from the mid-sternal line; the sounds were loud, the first, reduplicated at the apex and over the right ventricle. A well-marked systolic murmur was audible in the second and third interspaces in both aortic and pulmonic areas. It was not transmitted to the vessels of the

neck nor was any thrill to be felt in the aortic area. The patient passed through a mild attack of typhoid fever with a ten day's relapse. The temperature, between the 40th and 60th days, was slightly irregular, occasionally rising above 99°. The colorless corpuscles, during the early part of the malady, ranged from 3 to 4,000. On the 69th day the leucocytes were 3,800. On the 79th day while the temperature was sub-normal, it was noted that the point of maximum impulse was 10 cm. from the mid-sternal line, 3 cm. farther out than on entry. A definite systolic thrill was felt all over the cardiac area. At the second rib on the left sternal margin there was a distinct systolic murmur. The leucocytes were 7,800 to the cu. mm. Two days later the point of maximum impulse was in the 5th left interspace, and a blowing systolic murmur was audible all over the cardiac area. This was well heard in the pulmonic region, but over the aortic area it had become intensified and rougher.

On the following day, I found, at the base and especially in the aortic area, a very loud echoing systolic murmur. This reached its maximum in the first right space where it was harsh and rasping. It was well heard in the epi-sternal notch, slightly in the carotids. After exercising and lying down again a soft systolic murmur was heard at the apex. The pulse was distinctly long and well sustained, the tracings showing characteristic flattening of the summit of the pulse curve.

This case, which was seen also a month after discharge, presents evident signs of aortic stenosis.

It is interesting to note that at the time when the character of the murmur at the base began to change, the leucocytes which had been almost invariably under 4,000, went up to 7,800. It seems reasonable to assume that in this instance an aortic endocarditis developed during the typhoid fever.

5. MYOCARDITIS.

There were few cases in which a definite diagnosis of acute myocarditis was made *intra vitam*. Indeed, the symptoms upon which such a diagnosis may be based are still extremely questionable. Extreme rapidity and irregularity of the heart's action, embryocardia, the development of relative mitral insufficiency would lead one to suspect the existence of grave acute changes in the heart muscle. All these symptoms may, however, depend upon vaso-motor paralysis; indeed, the observations of Passler and Rolly (Experimentelle Untersuchungen uber Kreislaufstorungen bei acuten Infectionskrankheiten. Deutsch.

Arch. f. klin. Med., 1903, lxxvii, 1) would tend to suggest that this, as a general rule, is the cause of the collapse at the height of many acute diseases, the true cardiac changes coming on in great part secondarily to and as a result of the impaired nutrition of the heart wall incident to the fall in blood pressure.

The heart muscle in many of the cases dying with symptoms of marked cardiac collapse showed the characteristic appearances described by the old observers—general flabbiness, a yellowish brown, dead leaf color, looseness, œdema, and diminished consistency of the heart muscle and, not infrequently, a distinct mottling suggestive of fatty change. In how far the development of systolic apical murmurs at the height of typhoid fever may be regarded is indicative of true myocarditis is a point which we must regard at present as quite unsettled.

A comparison of the most minute histological changes in the heart wall with the clinical symptoms in our fatal cases is one of the important points of this investigation which I have not as yet been able to approach.

One case which must be regarded as an example of weakness of the heart muscle immediately subsequent to what was probably a mild typhoid fever may be of interest.

Case IV.—(*Vide supra*, page 199.) (No. 41,270.) F. J., aged 40, was admitted to the hospital on the 4th day of a mild typhoid fever. He had had rheumatism 23 years previously, and chills and fever three weeks before entry. On entry the heart sounds were clear, though the first was rather muffled. On the 11th day a well marked systolic murmur was heard at the apex, almost completely replacing the first sound and propagated to the anterior axillary line. It was not heard in the tricuspid area nor above the 4th rib. At the base, both sounds were clear. Three days later it was noted that the pulmonic second sound was accentuated, while a soft diastolic murmur was heard along the left sternal border in addition to the systolic murmur at the apex. On the 18th day the temperature was sub-normal, the diastolic murmur had entirely disappeared, and the systolic murmur was barely audible. On the day of discharge, the 34th, the heart sounds were clear excepting a slight reduplication of the second in the pulmonic area. The apex impulse was, however, 11 cm. from the median line, 2.5 cm. further out than on entrance.

The fact that these cardiac manifestations were associated neither with fever nor with leucocytosis speak rather against the existence of a true endocarditis and in favor of a purely myocardial weakness.

6. VENOUS THROMBOSIS AND PHLEBITIS.

Among the 1,458 cases of typhoid fever there were 38 instances of venous thrombosis, a percentage of over 2.6.

In addition to these cases two patients with this complication were admitted during convalescence, while one man who had suffered from double iliac thrombasis complicating typhoid fever entered the hospital two years later on account of the resulting symptoms.

Mortality. 5 or 13.1% of these cases resulted fatally.

In two instances the thrombosis was probably the primary cause of death, once, through pulmonary embolus from a thrombus in the left axillary artery (No. 27,855), once, (No. 28,600), in a case of thrombosis of the left common iliac and femoral veins, through a large embolus of the inferior cava and right auricle.

Situation of the thrombus.

(a) As to section of the body:

In these 41 cases the thrombosis was:
In the lower extremities in 39 cases.
In the upper extremity in 1 case.
In the pulmonary artery in 1 case.

(b) As to side.

The occluded vessel was:
On the left side in 26 instances.
On the right side in 5 instances.
On both sides in 8 instances.
Imperfect record in 2 instances.

(c) As to vessels.

The femoral vein was occluded in 20 instances.
The popliteal vein was occluded in 5 instances.
The iliac veins were occluded in 5 instances.
The veins of the calf were occluded in 5 instances.
The internal saphenous was occluded in 3 instances.
The pulmonary artery was occluded in 1 instance.
The pulmonary artery and common iliac were occluded in one instance.
The axiliary vein was occluded in 1 instance.
Making a total of 41 instances.

In six of the cases of femoral thrombosis, plugging of the internal saphenous was also noted.

Symptomas.—Time of onset. The thrombosis occurred usually toward the latter part of the fever, and in a number of instances after complete defervescence. The time of onset is illustrated in the following table:

TABLE III.

Illustrating the time of onset of 38 cases of phlebitis.

Weeks.	1	2	3	4	5	6	7	8	9	10	11	12	13	?
Cases..	1	1	10	8	5	3	2	4	0	1	1	0	1	1=38

Fever.—In 35 of our 38 cases the development of the thrombosis was associated with fever; in three there was no fever.

In 25 cases the fever was intercurrent, the phlebitis coming on before complete defervescence.

In 13, the temperature was normal at the time of the onset of the phlebitis.

Chills.—In 11, or 28.9% of these 38 cases, the complication was associated with chills.

In two instances, the chills occurred just at the time of recognition of the condition.

Twice the chills occurred before recognition, once four days and once a week before.

In six cases the chills occurred during the course of the complication, once during the period of subsidence, and in the other five instances during the height of the process.

Once the chills occurred before, during, and after the apparent onset of the thrombosis.

In one of the three cases entering the hospital after the acute symptoms had passed, there was a history of chills; their exact relation, however, to the time of development of the thrombosis was not clear.

Pain.—The first definite symptom of the thrombosis in every instance was pain. This varied considerably in intensity and suddenness of onset.

(a) Character of the first symptoms in 18 cases of femoral thrombosis.

In all the cases of femoral thrombosis but one there was pain along the course of the femoral vein. In this one instance the

only symptoms noted in the hospital were those of popliteal thrombosis. The subsequent history of the case, however, made it clear that there must also have been plugging of the femoral vein.

The first localizing symptom of the process was:

Pain along the course of the femoral vessels and in Scarpa's triangle in .....9 instances.
Pain in the calf in .....4 instances.
Pain in the popliteal region in .....1 instance.
No satisfactory note in .....3 instances.
Patient too ill to locate pain in .....1 instance.

In three of these cases the onset of the pain was strikingly sudden.

(b) Character of the first symptom in 5 cases of popliteal thrombosis.

In all of the cases of popliteal thrombosis the first symptom was pain in the popliteal region.

(c) Character of the first symptom in 5 cases of iliac thrombosis.

In the cases of iliac thrombosis the onset was associated with sudden sharp abdominal pain in 4 instances. In one of these the pain was extremely severe and associated with marked leucocytosis, the symptoms suggesting perforation. An exploratory laparotomy was performed, revealing the true nature of the lesion. In one instance in which the patient was hemiplegic and dull, there was no pain.

(d) Character of the pain in 5 cases of thrombosis of deep veins of the calf.

In all of these cases the first symptom was pain in the calf.

(e) Character of the pain in three cases of thrombosis of the internal saphenous vein.

In 3 cases in which there was thrombosis of the internal saphenous vein alone the first symptom was pain along the course of the vein in every instance.

(f) In the case of axillary thrombosis the first complaint was of pain about the bend of the elbow.

Œdema.—In all of the 38 cases there was swelling of the affected part, and in most instances the local temperature was raised. Often there was redness over the affected vessel. A

definite note as to the existence of œdema was unfortunately not made in all cases.

(a) In 18 cases of femoral thrombosis:

Œdema was noted in 10 cases.
"Swelling" alone in 6 cases.
There was no œdema in 2 cases.

(b) In 5 cases of iliac thrombosis there was:

Œdema in 2.
No œdema in 3.

(c) In 5 cases of popliteal thrombosis there was:

Œdema in 2 cases.
"Swelling" in 2 cases.
No note in 1 case.
No œdema in 1 case.

(d) In 5 cases in which the veins of the calf were apparently involved alone there was:

Œdema in 1 case.
"Swelling" in 3 cases.
No œdema in 1 case.

(e) In all 3 cases in which the internal saphenous vein and calf muscles were involved there was œdema.

(f) In the case of thrombosis of the axillary artery there was œdema.

Palpability of the thrombotic mass.—In 16 out of 38 cases the thrombotic mass was felt as a palpable cord.

Leucocytosis.—In 21 cases counts of the colorless corpuscles were made during the complication.

In 12, or 57.1%, the leucocytes were above 10,000 to the cu. mm.

In 18, or 85.7%, they were above 7,000.

In one instance they were below 6,000.

The highest count, 24,864, occurred in a case of iliac thrombosis in the third week of the disease. In this instance an exploratory laparotomy was done in view of the possible existence of perforative peritonitis. The lowest count, 2,700, occurred on the day after the onset of a phlebitis, apparently of the popliteal,

which occurred in the sixth week without fever, and with very slight general symptoms.

In connection with these blood counts it should be remembered that, in every inustance but one, the phlebitis came on in the third week of the disease, or later, at a period when, according to our statistics, the leucocyte count in uncomplicated cases should not be above 5,500.

Association with secondary infections.

Out of our 38 cases there were 7 instances in which secondary infections preceded, or co-existed with, the onset of the thrombosis. These secondary processes were:

Boils in ..... 2 cases.
Well marked bronchitis in ..... 1 case.
Gangrene of the lung in ..... 1 case.
Fistula in ..... 1 case.
Chronic otitis media in ..... 1 case.
Amœbic dysentery, with developing hepatic abcess, in.. 1 case.

In the remaining 31 instances there was no clinical evidence of secondary infection.

Post-mortem appearances.

In the 3 cases in which bits of the clogged vein were examined histologically, evidence of well marked inflammatory changes was found in the walls of the vessels, such, however, as might well have arisen secondarily to the thrombosis. In one of these cases there was, at the point of section, an extensive endophlebitic plaque which, however, probably antedated the typhoid fever. But few sections were examined and it is improbable that these came from the point of origin of the thrombus, so that conclusions with regard to the preëxistence of a phlebitis are not justified.

Cultures.—In one case the bacillus typhosus was obtained in pure culture from the thrombus.

In one the cultures were negative.

No notes were made with regard to cultures from the thrombus in the other two cases.

A consideration of the character and extent of the general symptoms in this group of cases would seem to justify the conclusion that in most instances the thrombosis was associated with, and preceded by, a phlebitis.

Especially interesting is the frequency of chills in association with the complication. Unaccountable chills at the height, or toward the latter part, of typhoid fever should always give rise to the suspicion that a phlebitis may be developing.

7. Arterial Thrombosis and Arteritis.

Five cases of arterial thrombosis or arteritis developed under our observation.

Case XIV.—(No. 12,616.) (Reported by Dr. Osler, Johns Hopkins Hospital Reports, 1900, viii, 364, and by Thayer, N. Y. State Journal of Medicine, 1903, iii, 21-28.) The first case was that of a young man of 22, of excellent family and personal history, who was admitted to the hospital on the 24th of April, 1895, on the 4th day of a mild typhoid fever. On the 9th day he was seized suddenly with violent general convulsions, the movements being rather more marked on the right side. There was conjugate deviation of the eyes upward and to the left. The convulsions recurred repeatedly at short intervals for about an hour. During the paroxysms the patient was profoundly unconscious, though, between times, his mind seemed partially clear. After an intermission of about four hours the convulsions returned, recurring with great severity at intervals for six hours, when death occurred during a severe paroxysm.

The necropsy performed by Dr. Flexner showed a thrombosis associated with an acute arteritis of the ascending parietal and parieto-temporal branches of the left middle cerebral artery. The extent of the arteritis, together with the fact that it was found in branches in which there was, as yet, no thrombosis, led us to regard it as having preceded the occlusion of the vessel.

Case XV.—(No. 28,600.) (Reported by Dr. Osler. Johns Hopkins Hospital Reports, 1900, viii, 368.) The second case was that of a man of 46 who entered the Johns Hopkins Hospital on the 27th of November, 1899, on the second day of typhoid fever. He had had measles and mumps as a child, and a year before a slight arthritis of the left ankle. He had had a venereal ulcer of doubtful character, without secondary symptoms, seven or eight years before. On the 19th day of his disease, while delirious, he gradually developed a complete hemiplegia of the left side. The respiration became of a Cheyne-Stokes character which persisted during the next several days. There was no loss of consciousness. Five days later he died suddenly from embolism of the inferior cava, resulting from breaking off of a large thrombus in the left iliac vein. The necropsy

showed an area of softening in the upper part of the right internal capsule, due, undoubtedly, to the plugging of the branch of the artery supplying the area. The leucocytes, which, on entry, were 6,200, were 9,250 to the cu. mm. during the onset of the symptoms of occlusion.

Case XVI.—(No. 39,264.) (Reported by Thayer, N. Y. State Journal of Medicine, 1903, iii, 21-28.) The third case was that of a girl of 16, who entered the hospital on the 16th of June, 1902, on the fifth day of a severe typhoid fever. There was a marked general bronchitis, and on the eighth day of her illness evidences of broncho-pneumonia appeared. The leucocytes at this time were, on two counts, 6,000 and 5,000 to the cu. mm. On the 11th day there was a slight leucocytosis. On the succeeding three days the patient seemed better, until, on the 14th day, on removing her from the tub, the right foot and leg below the knee were found to be white and cooler than on the left side. The coolness extended above the knee in front. There was no swelling of the leg or foot. The femoral artery could be followed by its pulsation half way down the thigh. No pulse was palpable in the popliteal or dorsalis pedis. The patient was delirious and in a condition of profound intoxication; the leucocytes were 17,000 to the cu. mm. Gradually, a line of demarkation developed about the junction of the upper and middle thirds of the leg, with dry gangrene below. The condition of the patient became gradually worse, and death followed on the 22nd day. The heart's action was rapid throughout the disease, but there was no evidence of dilatation; the sounds were always clear, and there were no signs of embolism elsewhere. The case was regarded by Dr. McCrae and the writer as one of thrombosis rather than embolism. No necropsy was allowed.

Case XVII.—(No. 39,471.) (Reported by Thayer, N. Y. State Journal of Medicine, 1903, iii, 21-28.) The fourth case was that of a boy of 18, who, on the 14th day of a fairly severe typhoid fever, began to complain of pain and tenderness on the inner side of the left thigh, along the course of the femoral vessels, extending subsequently to Scarpa's triangle. The thigh was warmer than the right, and swollen, while the foot and leg were pale and cool. There was no œdema. The pulse in the femoral and arteries of the foot almost disappeared. The symptoms soon began to improve, but on the 49th day pain and swelling appeared in the popliteal space and calf, the foot became cooler and cyanotic again, and the arterial pulse in the foot once more entirely disappeared. There was slight œdema about the malleoli. The œdema lasted but a few days; the

pulsations in the arteries gradually improved, and the patient was discharged, apparently well, on the 71st day.

Case XVIII.—(No. 40,343.) (Reported by Thayer, N. Y. State Journal of Medicine, 1903, iii, 21-28.) The fifth case was that of a woman of 27, who, on the 21st day of a mild typhoid fever, began to complain of pain over the brachial artery at the bend of the left elbow where there was marked tenderness, with slight redness and swelling. The radial pulse was diminished in size, and the hand cooler and paler than the right. In the course of several days, however, the symptoms wholly cleared up.

In these two latter cases it is a question whether an actual thrombosis developed, or whether the symptoms may not be regarded as due to an acute arteritis alone, the interference with the circulation following the œdema and infiltration of the walls.

In addition to these cases, there have been treated in the hospital three instances of hemiplegia in which the onset occurred during typhoid fever, while Dr. Thomas has kindly given me the notes of two further cases which he has observed in the out-patient department.

Case XIX.—(No. 14,083.) (Reported by Blumer. Johns Hopkins Hospital Bulletin, 1896, vii, p. 72.) The first case was that of a girl of 7, who entered the hospital on October 3, 1895, complaining of inability to use the right hand. On June 3rd, during the 9th week of a rather severe attack of typhoid fever, the child was seized with violent convulsions, confined to the head, right arm, and leg. On the afternoon of the day of onset the movements ceased in the head, which the mother described as having been thrown backward. Continued movements of flexion and extension of the limbs followed for two days. When these came to an end it was noticed that the right arm and leg were paralyzed. There was also involvement of the face and total loss of speech. Five weeks after onset spastic rigidity of the arm was noticed. Six weeks after the onset movements of the leg began to return. In the 7th week there was some return of speech. At the time the patient was in the hospital the speech was improving rapidly, though it was still very imperfect. The child recognized objects and looked bright and intelligent. The right leg was dragged, the foot inverted. The right arm was held semi-flexed, the wrist and hand flexed, with marked spastic rigidity. She could voluntarily flex and extend the arm at the elbow and could

lift the hand to the head, but the power of extension in the wrist and of the fingers and the ability to grasp objects with the hand were almost completely lost.

Case XX.--(No. 14,630.) (Reported by Dr. Osler. John Hopkins Hospital Reports, 1900, viii, 367.) The second case was that of a man of 25, of excellent family history, who entered the hospital on November 30, 1895. In March, at the end of the second week of a severe attack of typhoid fever, a paralysis of the left arm and leg suddenly developed. There was no convulsion, and his physician states that there was no aggravation of the delirium during the attack. There was no difficulty in speaking and no trouble with the rectum or bladder. When in the hospital there was no trace of paralysis of the facial muscles; the left arm could be moved at the shoulder and elbow and slightly at the wrist in flexion. The hand could be extended, but only slight movements of extension of the fingers were possible. The power of pronation and supination was lost. The left leg could be freely moved at the thigh and flexed and extended at the knee. The reflexes on the left were everywhere increased. Wide, irregular, choreiform movements were noted when the patient attempted to move the left arm.

Case XXI.—(No. 30,540.) The third case was that of a man of 34 who was admitted to the hospital on the 19th of May, 1900. In the fall of 1897 he had a severe typhoid fever, during the third week of which he became delirious. On recovering consciousness, in the 9th or 10th week, he found that his left arm and leg were paralyzed. Three years later, at the time he was in the hospital, he showed distinct loss of power, with spastic contractions in both extremities, and athetoid movements of the hands.

Case XXII.—(Nervous Dispensary, No. 13,149.) The fourth case was that of a girl of 8, who entered the nervous department of the Dispensary on the 13th of March, 1902, complaining of weakness on the right side. There was nothing remarkable in her family or previous history. Four and a half years before, in October, during the third or fourth week of a typhoid fever, she developed a right-sided hemiplegia. There were no violent convulsions, though it is stated that "she straightened out." She was unable to clearly understand what was said to her. There was loss of control of the bladder and rectum, and involvement of the facial muscles. The power of speech began to return about eight months after the onset; she was unable to walk for a year. The facial paralysis disappeared after several months, and the control of the bladder and rectum after about six

months. At the time when she reported at the Dispensary the right arm was wasted and shorter than the left. There was wrist drop, and the fingers were flexed; there was spastic contraction of the flexors at the elbow and stiffness on trying to extend the wrist. There was slight toe drop on the right side, though the patient walked fairly well, the right foot being dragged but little.

Case XXIII.—(Nervous Dispensary, No. 15,179.) The fifth case was that of a girl of 10, of good family and previous history, excepting for the fact that at 2 she had had chills and fever and convulsions. At the age of 4 she had typhoid fever. After about three weeks she was so much better that she sat up in bed. This was followed by a relapse, in which there developed a right-sided hemiplegia. While sleeping, she suddenly waked with a scream and fell back unconscious. There were no convulsions. She did not recognize any one for 21 days, and did not walk for a year. Speech began to return after about three months. At the time when she consulted Dr. Thomas, six years after her illness, there were contractions and athetoid movements in both arm and leg.

In this connection, I may mention a very remarkable instance which was communicated to me a year ago by Dr. Royster, of Norfolk:

Case XXIV.—A girl of 8, in the 4th week of a typhoid fever of moderate severity, when the temperature had nearly reached a normal point, developed a left-sided hemiplegia involving the face, arm and leg in association with paralysis of the right third nerve—a typical Weber's syndrome. The onset was associated with convulsions. A year later the child still had at times spasmodic twitchings involving the left side and the right eye and occasional general convulsions. The lesion in this case was undoubtedly peduncular, probably thrombotic.

Two cases of cerebral thrombosis with aphasia and hemiplegia which I have previously reported (Johns Hopkins Hosp. Bull., 1896, vii, 73) may be also included in this list. Both of these instances were observed in the Massachusetts General Hospital.

Case XXV.—The first of these cases was that of a man of 21, of good family and previous history, who, on the 10th day of a fairly severe typhoid fever, developed a complete right-sided hemiplegia, with aphasia. There were no convulsions; the patient was dull but not

unconscious at the time of onset. About three months later he was able to walk and the power of speech was returning. There was still, however, but little return of power in the forearm and hand.

Case XXVI.—The second instance was that of a girl of 10, who in the 4th week of typhoid fever developed paralysis of the right arm, with aphasia. At the time of onset the child was in a dull, stupid condition, but there were no convulsions and no loss of consciousness. Six weeks later, the movements of the hand and arm were almost as good as on the other side, but the child seemed mentally dull.

Case XXVII.—I have also the notes about an extremely interesting case, the anatomical specimens from which were sent to me by my friend, Dr. Akerman, of Wilmington, North Carolina. The patient, a man of 31, of good habits, with no history of previous serious illnesses entered the James Walker Memorial Hospital on July 1, 1903, on the third or fourth day of a severe typhoid fever. At the end of the second week, the thirteenth or fourteenth day, there developed a complete left-sided hemiplegia. The patient was delirious at the time of onset of the paralysis, but not unconscious. Two weeks later, despite the gravity of the condition, signs of return of power on the paralyzed side began to appear. At the beginning of the fifth week (July 25th,) there developed a right femoral phlebitis. The patient, who was very ill throughout, gradually failed and died on the 41st day. The autopsy showed extensive infarctions of the spleen and kidneys, due apparently to autochthonous thrombosis. The heart showed nothing remarkable; the brain, which was preserved whole, was unfortunately lost on account of a mistake in the preserving fluid. So that the exact location of the lesion could not be determined. There can, however, be little doubt from the character of the case that it was an instance of thrombosis.

Considering these 14 cases together, the onset of the symptoms occurred:

In the second week in	3 cases.
In the third week in	4 cases.
In the fourth week in	3 cases.
In the third or fourth week in	1 case.
In the sixth week in	1 case.
In the tenth week in	1 case.
Uncertain in	1 case.

Of the seven cases in which the onset was observed, in all but one it occurred during the febrile period.

The complication appeared to have slight influence on the course of the fever, excepting in the first case where the temperature rose, up to the time of death.

In none of the cases were there chills.

Leucocytosis.

In the four cases in which blood counts were made the leucocytes were: 17,000, 13,200, 9,500, 9,250.

Taking into consideration the clinical symptoms in connection with the temperature records and the microscopical observations in the first case, it would seem not improbable that in all of these cases there was a primary arteritis. Whether in cases XVIII and XIX a partial or parietal thrombosis occurred or whether the symptoms are to be ascribed to the interference with the circulation incident to the swelling of the arterial walls alone must remain an open question.

A striking point of variance between these cases and those of phlebitis is the difference in their distribution. Of the 14 instances of arterial thrombosis but 2 occurred in the lower extremities. One developed in the arm and the remaining in the cerebral vessels.

Again, among these 14 cases the distribution as to the side of the body was more nearly equal, 5 being right-sided and 8 left-sided lesions. These particular figures cannot, of course, be compared with the cases of phlebitis which were, in such preponderance, limited to the lower extremities. The statistics of Keen*, however, show that arterial thromboses are much more evenly distributed between the two sides.

Acute Aortitis.

We have never observed during life symptoms similar to those described by Potain (de l'aortite typhique. Semaine méd., Par., 1894, xiv, 460) as suggestive of the existence of acute aortitis, nor have our necropsy records shown changes which could well produce such symptoms.

II. Analysis of the Necropsy Records.

Between the 15th of May, 1899, and the 1st of January, 1903, there were 132 fatal cases of typhoid fever, with 95 necropsies.

*Surgical Complications and Sequels of Typhoid Fever, Philadelphia, 1898, p. 76-78.

HEART MUSCLE.

Upon the gross appearance of the heart muscle comment has already been made. A study of the microscopical changes with modern methods of investigation, in those cases from which tissues have been saved, and a comparison of the results with the clinical histories, is an important part of this investigation which I have as yet been unable to carry out. From what observations I have made, I am convinced that there is room for further study of the changes occurring in the heart muscle in typhoid fever.

It is unnecessary here to refer to the fatal cases of acute endocarditis, pericarditis, phlebitis, and arteritis, mention of which has already been made.

THE ARTERIES.

Of especial interest, it seems to me, is the question as to the relation of acute infections in general, and typhoid fever in particular, to acute and chronic changes in the aorta and general arterial system. The occasional existence of acute arteritis in the larger peripheral vessels has already been mentioned in connection with arterial thrombosis. There is a feeling among many observers that the severe acute infections, and typhoid fever especially, play a more or less important part in the causation of focal endarteritic changes in the aorta and other vessels which may subsequently give rise to grave functional disturbances, yet a really systematic research into the effects of typhoid fever upon the heart and arteries has not, so far as I know, been made.

A mere survey of the protocols of our necropsies reveal some interesting points. In a large proportion of these cases, unfortunately, little attention has been paid to the vessels, and where observations have been made, these are restricted almost entirely to the aorta and coronary arteries. In a considerable number of cases, however, especially in recent years, since our attention has been more particularly directed toward this point, relatively fresh sclerotic changes have been described in the intima of the aorta and coronary arteries.

The Aorta.

Out of 52 cases in which notes upon the condition of the aorta were made, there were evidences of sclerosis in 30. These changes were apparently recent in at least 21 instances.

The Coronary Arteries.

Especially interesting are the records with regard to the coronary vessels. Out of 62 cases in which the condition of the coronary arteries was recorded, there were 19 in which definite sclerotic changes were noted. In four other cases yellow opacities in the intima were described. In 13 of these cases the changes were early and apparently recent.

These observations are, it seems to me, of considerable significance. They are markedly at variance with the above quoted experience of Curschmann.

Case XXVIII.—(No. 40,831.) **One case, of recent occurrence, is particularly suggestive. A strong, vigorous man of 25, of excellent history and habits, who had suffered from measles at 21, mumps at 23, and chicken pox at 24, died at the end of the third week of a very severe typhoid fever. The heart's action was rapid, but there was no apparent dilatation and no cardiac murmurs. The pulse tension was remarkably low. At necropsy, several very early patches of endarteritis were found at the root of the aorta, and one or two on the ventricular surface of the mitral valve; these were slightly raised areas, in parts somewhat yellowish, in part still translucent. On opening the coronaries there were found "numerous patches of yellowish sclerosis, especially in the anterior descending branch. The posterior branch also shows extensive sclerosis. The patches are small and discrete, and in large part translucent, spotted with yellow." Sections through these areas show a very early process, so much so that one may well ask whether the lesions did not originate in the course of the typhoid infection.**

This patient was one of the hôuse physicians, with regard to whose habits and life we had peculiarly good information. He was a man of exemplary habits, who had not been given to excesses of any sort; he had never been in the habit of taking over-violent physical exercises, and, as has been said, had suffered only from measles, mumps, and chicken-pox. The lesions present in the coronary vessels were really extensive, and in the course of the regressive changes which must have followed had he recovered, might well have given rise to sufficient stenosis to result in the gravest damage to the cardiac muscle.

Such a case can but impress one with the importance of more careful observations upon this point. As Brault (Les artérites, Leur rôle on pathologie. Paris, (not dated.) Masson & Gauthier—Villars (Encyclopedie scientifique des aide—meémoire),

said some years ago: "Alterations in the arteries of patients dead of typhoid fever should be carefully looked for, as well in the arteries of the extremities as in the aorta and arteries of the base of the brain. It is the only way to settle the question as to whether arterial affections are frequent in this disease."

III. A STUDY OF THE SUBSEQUENT CONDITION OF 189 PATIENTS WHO PASSED THROUGH THEIR TYPHOID FEVER IN THE WARDS OF THE JOHNS HOPKINS HOSPITAL WITHIN THE PAST 14 YEARS.

A point of fundamental importance with regard to the question of the effect of typhoid fever on the heart and vessels would be the study of the subsequent condition of the vascular apparatus of a sufficient number of patients at a later period. The only method of solving this question would seem to be the careful observation of a large number of individuals during months and years following their typhoid fever. This is naturally a difficult thing to do, and the results of such an investigation must very naturally be affected by a variety of disturbing influences. Nevertheless, it seemed to me that it might not be uninteresting to examine the hearts and arteries of as many of our old typhoid patients as could be reached, and, especially, to observe the subsequent course pursued by those cases in which cardiac and vascular lesions were recognized at the time of their disease. Within the last two years I have examined 189 of our old typhoid patients. The result of these investigations, which have, in great part, been reported in the March number of the American Journal of the Medical Sciences, (On the Late Effects of Typhoid Fever on the Heart and Vessels. Amer. Journ. Med. Sc., 1904, cxxvii, 391), I will give here in brief.

AGE AND DATE OF ATTACK.

The age of the patients varied between 3 and 69 years, while the periods which had elapsed between the discharge from the hospital and the subsequent examination ranged from one month to thirteen years.

The following table will show the period of time which had elapsed beween the discharge of the patients from the hospital and the subsequent examination.

TABLE IV.

Showing the length of time which had elapsed between the discharge of the patient from the hospital and the subsequent examination.

	Months.		Years.												
	1-6	6-12	1	2	3	4	5	6	7	8	9	10	11	12	13
Cases	22	26	19	21	23	22	11	13	11	10	6	2	1	1	1=189

(There were but three cases seen under three months from the time of discharge.)

PULSE.

With regard to the rate and regularity of the pulse, nothing especially remarkable was noted.

Systolic Blood Pressure.

Of especial interest, however, were the observations upon the systolic blood pressure. These were made by means of the Riva Rocci apparatus. The patients were always in the recumbent posture, the estimate being made as the last step in the examination in order that physical influences might be excluded as far as possible. The results of these estimations compared with a series of similar observations on healthy individuals who had never had typhoid fever are indicated in the following table, which is graphically represented on Chart No. 1.

TABLE V.

Showing the averages of the systolic blood pressure in 276 healthy individuals, and 172 old typhoids, arranged according to age by decades.

Old Typhoids.

1-10	10-20	20-30	30-40	40-50	50-60	60-70
112.4 mm.	135.2 mm.	152.5 mm.	160.8 mm.	170.2 mm.	179.6 mm.	215 mm
5 cases.	39 cases.	61 cases.	48 cases.	15 cases.	3 cases.	1 case.

Healthy Individuals.

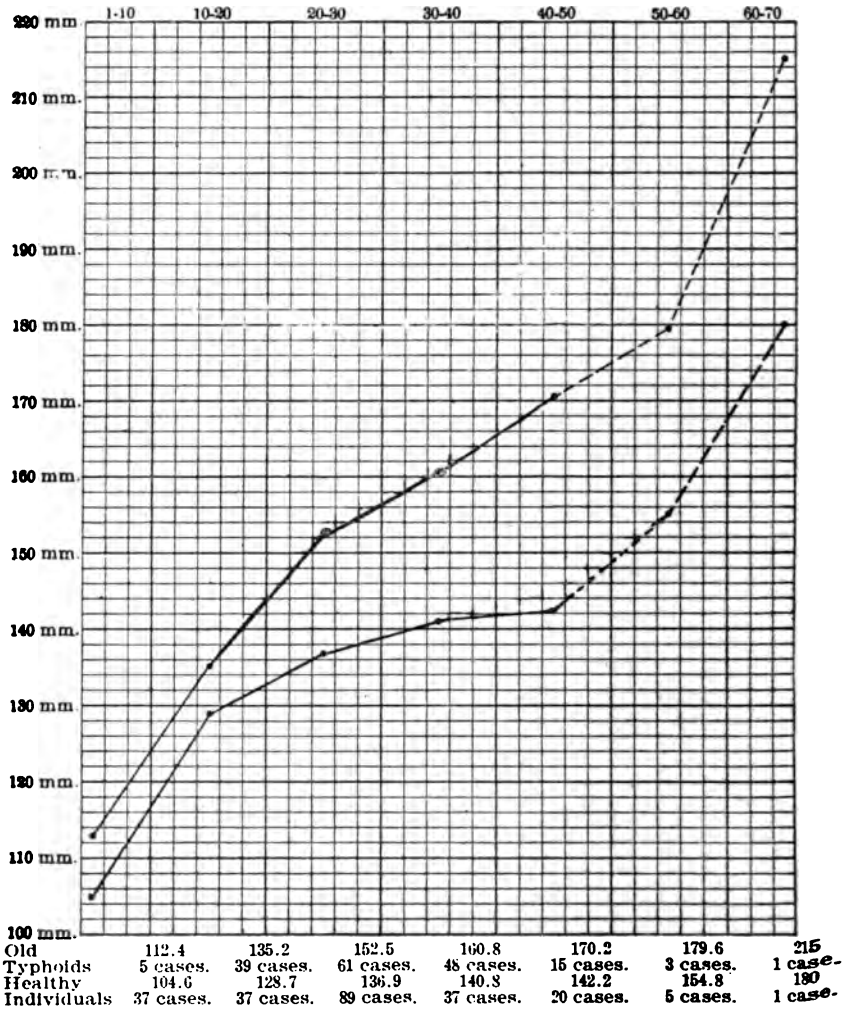
104.6 mm.	128.7 mm.	136.9 mm.	140.8 mm.	142.2 mm.	154.8 mm.	180 mm
37 cases.	87 cases.	89 cases.	37 cases.	20 cases.	5 cases.	1 case.

This table reveals the interesting fact that the average blood pressure in the old typhoids was uniformly higher than that in healthy individuals who had never had the disease. A further analysis of our records reveals the fact that a large proportion

of the old typhoids showed blood pressures above what are usually regarded as the normal limits.

CHART I.

Showing the averages of the systolic blood pressure in 172 old typhoids, and in 276 healthy individuals, arranged according to age by decades.



Old Typhoids	112.4 5 cases.	135.2 39 cases.	152.5 61 cases.	160.8 48 cases.	170.2 15 cases.	179.6 3 cases.	215 1 case.
Healthy Individuals	104.6 37 cases.	128.7 37 cases.	136.9 89 cases.	140.8 37 cases.	142.2 20 cases.	154.8 5 cases.	180 1 case.

In order to eliminate some of the numerous sources of error I prepared other tables excluding from each list all those cases in which a history of scarlet fever, diphtheria, acute rheumatism, pneumonia, erysipelas, small-pox, or alcoholic habits could be obtained.

TABLE VI.

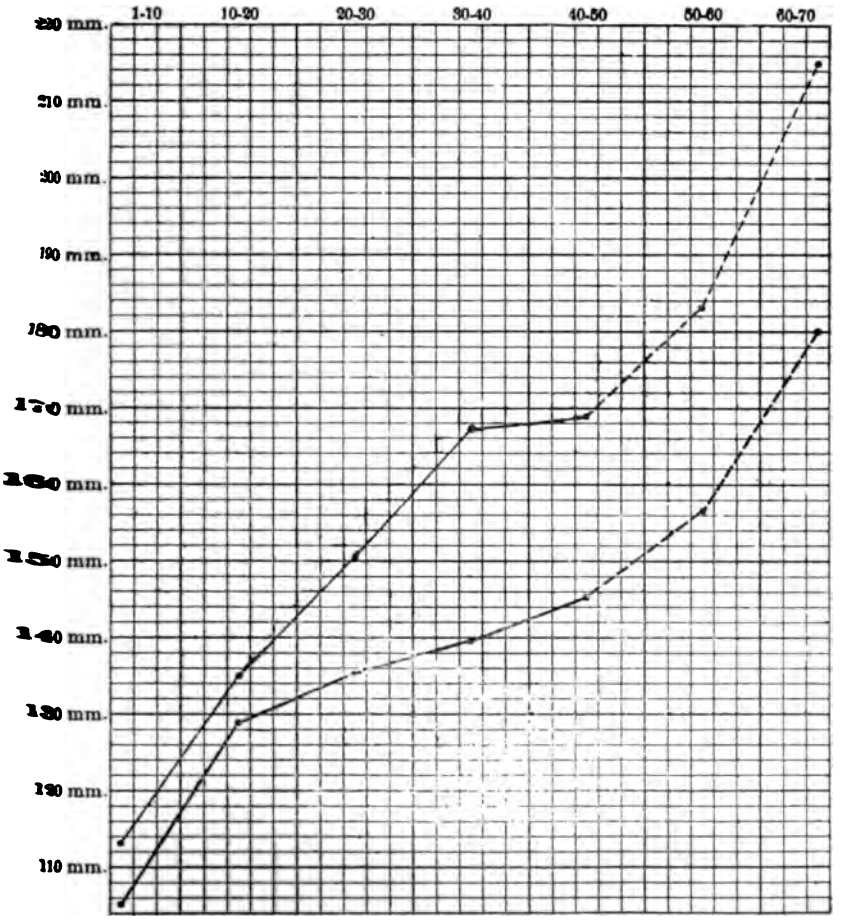
Showing the average of the blood pressure in old typhoids and normal individuals, from which all cases with a history of serious infectious diseases or alcoholic habits have been excluded.

1-10	10-20	20-30	30-40	40-50	50-60	60-70
113.2 mm.	134.9 mm.	150.3 mm.	167.6 mm.	168.7 mm.	183.5 mm.	215 mm.
4 cases.	28 cases.	34 cases.	27 cases.	8 cases.	2 cases.	1 case.
			Healthy Individuals.			
105.5 mm.	128.3 mm.	135.1 mm.	139.8 mm.	145.2 mm.	156.4 mm.	180 mm.
32 cases	62 cases.	52 cases.	19 cases.	11 cases.	4 cases.	1 case.

These tables, illustrated by Chart II, show, as may be immediately observed, no essential variations from the previous curve.

CHART II.

Showing the averages of the systolic blood pressure in old typhoids and in healthy individuals from whom all cases with a history of serious infectious disease or alcoholic habits have been excluded.



Old Typhoids	**113.2**	134.9	150.3	167.6	168.7	183.5	215
	4 cases.	28 cases.	34 cases.	27 cases.	8 cases.	2 cases.	1 case.
Healthy Individuals	**105.5**	128.3	135.1	139.8	145.2	156.2	180
	32 cases.	62 cases.	52 cases.	19 cases.	11 cases.	4 cases.	1 case

The alteration of the typhoid curve on the chart, due to the higher figures in the column for the thirtieth and fortieth decades, emphasizes the fact that the number of cases was still too small to allow of the construction of final charts.

Palpability of the radial arteries.

Another striking feature in the examination of our old typhoids was the remarkable frequency with which the radial arteries were palpable.

The following table,

TABLE VII.

Showing the percentages of palpability of the radial arteries in 188 *old typhoids, and in* 421 *healthy individuals who had never had typhoid fever, arranged according to age by decades:*

Old Typhoids.

1-10	10-20	20-30	30-40	40-50	50-60	60-70
0%	28.5%	53.1%	54.2%	50%	100%	0%
5 cases.	42 cases.	64 cases.	59 cases.	14 cases.	3 cases.	1 case.

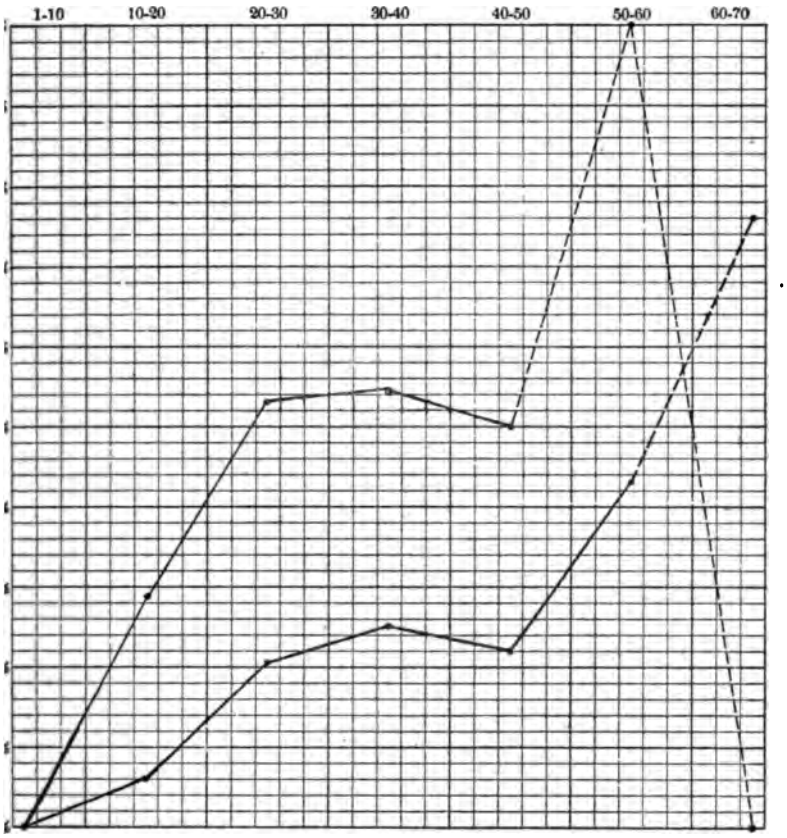
Healthy Individuals.

0%	6.1%	20.4%	25%	22%	42.8%	80%
37 cases.	98 cases.	86 cases.	61 cases.	27 cases.	7 cases.	5 cases.

which is illustrated by Chart III, shows a comparison of the figures in our old typhoids arranged according to decades, and a series of 421 healthy individuals who had never had typhoid fever. From our figures it appears that between the ages of ten and fifty years 48.3% of the old typhoids showed palpable vessels, as compared with 17.5% of the control cases.

CHART III.

wing the percentages of palpability of the radial arteries in old typhoids and in healthy individuals arranged according to age by decades.



	0%	25.5%	53.1%	51.2%	50%	100%	0%
hoids	5 cases.	42 cases.	64 cases.	59 cases.	14 cases.	3 cases.	1 case.
lthy	0%	6.1%	20.4%	25%	22%	42.8%	80%
viduals	37 cases.	98 cases.	186 cases.	61 cases.	27 cases.	7 cases.	5 cases.

As in the case of the blood pressure, I have also prepared a second table including those cases only, in which a history of alcoholic habits and the more serious acute infections were absent. These figures,

TABLE VIII.

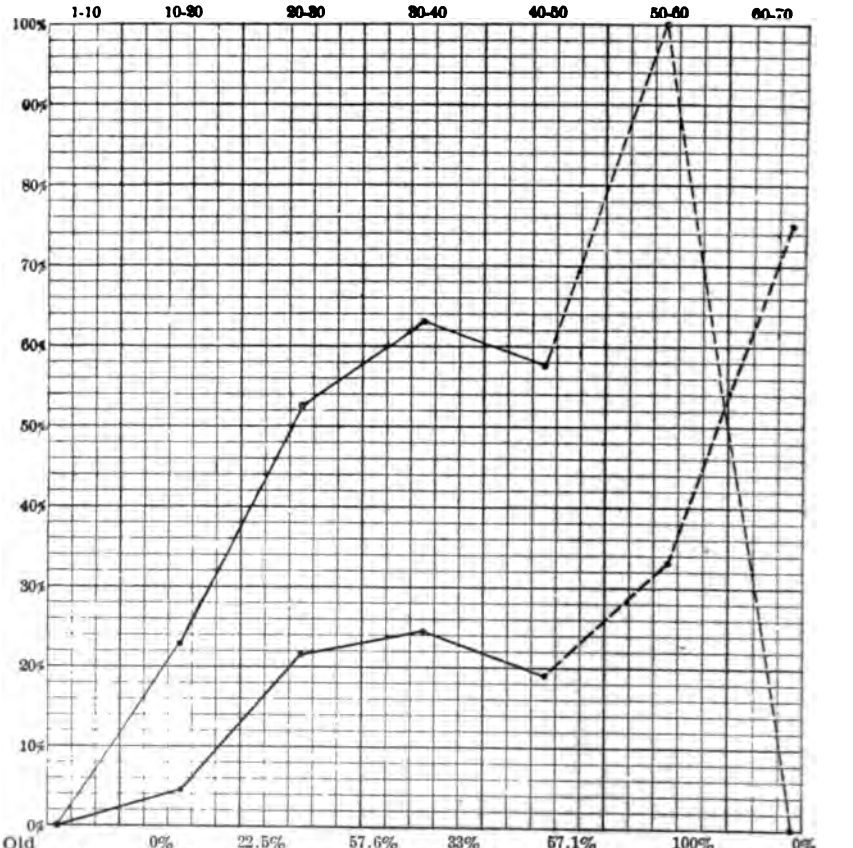
Showing the percentages of palpability of the radial arteries in old typhoids and in healthy individuals from which all cases giving a history of serious infections or alcoholism have been excluded.

	1-10	10-20	20-30	30-40	40-50	50-60	60-70
Old Typhoids.	0% 4 cases.	22.5% 31 cases.	52.6% 37 cases.	63.3% 30 cases.	57.1% 7 cases.	100% 2 cases.	0% 1 case.
Healthy Individuals.	0% 32 cases.	4.2% 70 cases.	21.3% 103 cases.	22.2% 27 cases.	18.7% 16 cases.	33.3% 6 cases.	75% 4 cases.

illustrated by Chart IV, show little variation from those based upon a larger number of cases.

CHART IV.

Showing the percentages of palpability of the radial arteries in old typhoids and in healthy individuals after the removal from each list all cases in which there is a history of severe infectious disease or of alcoholic habits.



	1-10	10-20	20-30	30-40	40-50	50-60	60-70
Old Typhoids	0% 4 cases.	22.5% 31 cases.	57.6% 37 cases.	33% 30 cases.	57.1% 7 cases.	100% 2 cases.	0% 1 case
Healthy Individuals	0% 32 cases.	4.2% 70 cases.	21.3% 103 cases.	22.2% 27 cases.	18.7% 16 cases.	33.3% 6 cases.	75% 4 cases.

Results so striking and constant as these could hardly be accidental, and interesting confirmation is afforded by the following observations.

In connection with some studies on albuminuria, which are being made by Dr. Emerson, abstracts were made of 2,000 histories in the medical department of the Johns Hopkins Hospital.

Out of these 2,000 histories a definite note as to the palpability or non-palpability of the peripheral vessels was made in 1,174 cases.

In 943 cases in which the radial arteries were palpable, 188, or 19.9%, gave a history of typhoid fever.

Out of 231 cases in which the peripheral vessels were not palpable, but 25, or 10.8%, had had the disease.

The frequency of a history of typhoid fever in the two groups arranged by decades may be shown by the following table:

TABLE IX.

Showing the relative frequency of a history of typhoid fever in 1,174 consecutive cases arranged according to age by decades.

Cases in which the peripheral vessels were palpable.

1-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
	6.35%	17.28%	17.94%	24.74%	22.35%	24.36%	29.17%	0%
2 cases.	63 cases.	191 cases.	223 cases.	196 cases.	170 cases.	78 cases.	24 cases.	2 cases

Cases in which the vessel wall was not palpable.

0%	11.76%	10.45%	8.77%	17.39%	14.28%	14.28%	0%
11 cases.	51 cases.	67 cases.	57 cases.	23 cases.	14 cases.	7 cases.	1 case.

These figures can but be regarded as strongly supporting the indications resulting from our previous observations.

CONDITION OF THE HEART IN 188 OLD TYPHOIDS.

A consideration of the condition of the heart in our old cases, both in the hospital and subsequently, reveals the interesting fact that the average size of the heart was greater among the old typhoids than in the same patients at the time of admission to the hospital, the difference holding good also when the cases were classed according to age by decade.

In 12 of these cases, where, on discharge from the hospital, the heart was considered normal, subsequent examination revealed evidence of organic disease; in 8 instances, hypertrophy with mitral insufficiency; in 1, possible mitral stenosis; in 1, aortic insufficiency; in 1, marked general arterio-sclerosis with hyper-tension. (The records of these cases may be found in American Journal Med. Sc., 1904, cxxvii, 410-420.)

An interesting case of hypertrophy with mitral insufficiency consecutive to typhoid fever, has recently come under my observation.

Case XXIX.—H. C. M., aged 33, a patient of Dr. Frank M. Sharpe, of Brooklyn, N. Y., consulted me on the second of March, 1904. He had had measles as a child, and pneumonia at the age of 4 or 5, but no other serious illnesses. His habits were excellent. He had always been a strong, athletic man. Two years ago last January, he had an attack of typhoid fever, during which he was in bed three or four weeks. Ever since this illness, he has been rather nervous, so much so that he felt obliged to give up his indoor work. He has noticed, also, that he is losing the "strength and the go" that he used to have, and he has been conscious of shortness of breath on going up hills. A month and a half ago he had a mild attack of influenza. About a month ago on being examined for life insurance, he was told that he had cardiac trouble. He was also advised to give up base ball and other out-of-door sports.

On examination, the pulse was slow, of rather large size, duration moderate; slight dicrotism. Maximum pressure (Riva Rocci), 185. The radials were palpable on both sides; temporals not prominent. The point of maximum cardiac impulse was localized in the fourth space, 9.2 cm. from the median line, the dullness extending 4½ cm. to the right; the greatest diagonal dullness, right to left, was 15 cm. In the erect posture, the impulse, which was strong, was in the fifth space, 9½ cm. from the median line—after a little exercise, 10 cm. The first sound was prolonged and followed by a very slight systolic murmur, which was lost two fingers' breadth outside the point of maximum impulse; it was not heard in the tricuspid area, but was just audible in both areas at the base. In the erect posture, however, the murmur increased in intensity and was faintly heard in the axilla and back, as well as over the cardiac area. The second sound was louder in the aortic than in the pulmonic area. After exercise, (jumping on one foot) the pulse rate increased to a little over 100, but soon fell.

A study of the subsequent condition of those cases showing a remarkably rapid or irregular pulse during the disease showed little of interest excepting for the fact that the blood pressure was somewhat above the common average of the old typhoids.

The nine cases in which bradycardia was noted during convalescence, showed no abnormalities on later examination.

Subsequent history of 31 cases of typhoid fever in which a systolic murmur at the apex was audible during the attack.

The patients who, during their attack, showed a systolic murmur at the apex of the heart, showed a higher average blood pressure than the general mean of the old ty-

phoids. In 28 of these cases, where the systolic pressure was taken on later examination, the mean was 158.5 mm. against a general average for the old typhoids of 152.4. This higher average was observed in every decade excepting the first, in which there was but one case, and in the third, in which there were but four. In 18 cases over 20 years of age, the average pressure was 169.2 as compared with a general average of 159.6 for the same decades. In 5 cases the pressure was above 200 mm.

The average size of the heart was found to be greater than in the same cases at the time of admission to the hospital, or in the old typhoids as a whole.

In 11 of these instances the heart sounds were clear on the later examination. In 20, murmurs were heard.

In one instance the murmur was a slight cardio-respiratory systolic sound, audible at the apex only.

In 6 cases there was a soft systolic murmur at the base, in some instances heard also over the right ventricle.

In 13 cases there was a systolic murmur at the apex of the heart. In 5 of these cases, the signs justified the diagnosis of mitral insufficiency.

In one case there were signs suggestive of mitral stenosis.

In one case there was a marked arterio-sclerosis with hypertension.

One case was an instance of Grave's disease with a systolic murmur all over the cardiac area. This condition was also present at the time of the fever.

From this, the striking fact appears that over one-fifth of those cases in which during typhoid fever an apical systolic murmur was audible showed on later examination evidences of organic cardiac lesion.

SUBSEQUENT HISTORY OF 16 CASES OF PHLEBITIS AND VENOUS THROMBOSIS.

Sixteen of our patients with venous thrombosis were seen or communicated with at a period of time months or years after the onset of the complication. Ten of these cases were instances of femoral thrombosis; two, of double iliac thrombosis; two, of popliteal thrombosis; two, of thrombosis of the veins of the calf.

After-history of 10 *cases of femoral thrombosis.* One of these ten cases was seen two and a half months after convalescence, one ten days after his discharge from the hospital, while two

others were communicated with by letter years after the onset. The remaining six were examined at periods varying from two to twelve years after the affection.

In all instances there was more or less permanent disability.

In 6 cases there had been *oedema* lasting for from several weeks to two years.

In 5 cases there was a complaint of *cramps* in the calves, especially at night and after exercise.

In one instance the patient complained of sharp *pains* running up through the leg and thigh, especially after standing.

In one case the patient says that when he exercises his leg too much, "it becomes so weak that he can hardly use it; it seems to give out."

In every instance the affected leg and thigh were materially and permanently larger than the other.

In all cases, excepting in the instance seen ten days after discharge, there were marked *varicosities*. These were especially extensive in the calf, the popliteal space and on the posterior and inner side of the thigh. In 6 cases, all but one in which the condition was looked for, there was a well marked varicosity of the veins in the hypogastrium. This picture seems to be characteristic. The varicosities usually form a triangle with the apex a little below the umbilicus, the blood flowing upwards from the affected thigh to the apex of the triangle, and then down again into the opposite inguinal ring, passing upwards evidently, through the iliac vein of the other side. The one case in which these varicosities were missed was that of an ignorant colored man who was communicated with by letter.

After-history of two cases of double iliac thrombosis.—Two cases of double iliac thrombosis were seen several years after the onset of the complication. In one of these, the first symptoms of which had been abdominal pain with marked leucocytosis, and the early appearance of rather prominent veins in the lower abdomen, the later subjective symptoms were few. Extensive varicosities, however, developed in the veins of both legs and thighs, extending upwards over the abdomen and anastamosing with the internal mammary veins and other veins in the axilla.

Case XXX.—(No. 45,899.) The second case was that of a young man of 22, of good family and personal history, who had a severe attack of typhoid fever at the age of 17. On the 18th or 19th day of the disease, just before the temperature reached the normal point, there was severe pain in the left groin. A few days later, the temperature

Case XXX.—Illustrating the abdominal varices in a case of double iliac thrombosis.

being normal, the patient got out of bed and walked about, committing also various indiscretions in diet. This was followed by a relapse, immediately after the onset of which there was swelling, redness, and pain in the left groin. About a week after this there was pain and marked swelling of his right leg. There was almost complete loss of power, and it was not until four months later that he was able to go back to work. He had to use crutches for a month. In the erect posture, the legs were considerably swollen; great varicosities developed, and three ulcers appeared on the left leg. Varicosities in the abdomen appeared during convalescence from this relapse. The patient entered the hospital on the eighth of March, 1904, complaining of swelling and ulceration of the legs and abdominal varicosities. There was great distension and tortuosity of the veins of both legs and thighs, extending up over the abdomen and anastomosing with branches of the internal mammary veins. Large tortuous veins also extended up into the axillæ. The left leg was everywhere a little larger than the right. The accompanying photograph illustrates the remarkable character of the varices and anastomoses.

After-history of two cases of popliteal thrombosis.—Two cases of popliteal thrombosis were seen several years after the onset of the complication. One of these patients had suffered no inconvenience whatever. In the other, the legs were somewhat weak and toward the end of the day, they are, at times œdematous. In both instances the affected leg is somewhat larger than the other, but in neither were there marked varicosities.

After-history of two cases of thrombosis of the veins of the calf.—In one case, after leaving the hospital, there was considerable œdema with the development of several ulcers. At the present time there is a well-marked varicosity of the veins at the inner side of the leg and in the popliteal space. The other patient was communicated with by letter. He states that the "leg from the knee down is the source of a little continuous annoyance; it itches and is frequently inflamed during the warm months. It often goes to sleep." The calf measures an inch and a half more than the other.

SUBSEQUENT HISTORY OF A CASE OF TYPHOID ARTERITIS WITH POSSIBLE PARIETAL THROMBOSIS.

J. H. T. (Case XVII, page 212), whose attack of arteritis of the left femoral with possible parietal thrombosis, has been previously described, returned on the 27th of March, 1904, in an-

swer to a letter. He considered himself in good health, and looked extremely well. He had recently entered the U. S. Marine corps. On inquiry, however, a history of typical intermittent claudication was obtained. He said: "When I am standing or walking, all of a sudden, it" (the left leg) "gives way on me, and I kind of fall." Several times, when he has walked too much, his left leg has suddenly given way so that he has actually fallen down. At times, when he tries to use it, there are sudden pains which shoot upward through his leg. Once when, as a printer, he was lifting a heavy form, the leg suddenly doubled up under him, and the form fell upon his toe.

On examination, the left thigh and leg were everywhere slightly larger than the right. The femoral pulsation appeared to be equal on both sides. In the popliteal, the pulsation was difficult to feel on either side. The pulsations of the dorsalis pedis were essentially equal. The posterior tibial pulsation, however, was very feeble upon the left as compared with that upon the right.

It is unnecessary here to refer again to the results of cerebral thrombosis.

CONCLUSIONS.

In considering this series of observations, what information have we gained, and what conclusions are we justified in drawing?

(1) Typhoid fever is a disease which, from a clinical standpoint, is often associated with symptoms suggestive of a grave weakening of the heart muscle. These changes, whether due primarily to direct action of the typhoid poison on the heart or to impaired nourishment from vaso-motor paralysis, result, in a considerable proportion of cases, in a temporary insufficiency of the mitral valve as indicated by the appearance of apical systolic murmurs, which are not infrequently transmitted to the axilla. These murmurs develop especially at the height of the disease, during the latter part of the first and in the second, third and fourth weeks, and disappear usually with convalescence. Sometimes, however, they may persist.

Twelve out of 188 cases of typhoid fever which were followed from three months to fourteen years after convalescence, showed conditions suggestive of organic cardiac lesion. In the majority of these cases a systolic apical murmur had been detected during their illness.

Over one-fifth of our old typhoids, in whom during their illness a systolic apical murmur was detected, showed, on subsequent examination, evidence of organic disease.

The average systolic blood pressure (Riva Rocci) was higher in every decade among our old typhoids than in healthy individuals who had never had the disease.

The radial arteries were palpable with strikingly greater frequency in our old typhoids than in healthy individuals of the same age who had never had typhoid fever.

(2) Endocarditis, while not a common complication of typhoid fever, is probably more frequent than generally supposed. It was present, without being suspected, in 3 out of 95 cases coming to necropsy at the Johns Hopkins Hospital, while in 3 further cases out of 1,363, the clinical symptoms suggested its presence.

In the 3 cases discovered at necropsy, the lesion was due to a secondary mixed infection; in two instances, staphylococcus aureus; in one, staphylococcus albus. It is not impossible that endocarditis is more frequent than indicated by these figures. Out of our 188 old typhoids, 8 showed mitral insufficiency; 1, aortic insufficiency; 1, possible mitral stenosis.

(3) Pericarditis is an unusual and unimportant complication of typhoid fever. Three instances only were noted in our 1,458 cases.

(4) Phlebitis and venous thrombosis is a frequent complication of typhoid fever, occurring in over 2.6% of our cases.

The onset occurs usually in the third week, or later, and is ushered in in most cases by fever, leucocytosis, and local pain. Not infrequently the fever and leucocytosis may precede the localizing symptoms.

The complication was ushered in by, or associated with, chills in 28.9% of our cases. Chills otherwise unexplained, occurring during the later part of typhoid fever or in the early stages of convalescence, especially if associated with a leucocytosis, should always suggest the possibility of a developing phlebitis.

The phlebitis is, in the great majority of cases, localized in vessels of the lower extremity, and is especially frequent in the femoral veins—about one-half of our cases.

Thrombosis of the iliac and femoral veins is always a serious complication. Although the immediate dangers—extension of the thrombosis, pulmonary embolism—are not great, the after results are often grave.

In thrombosis of the femoral or iliac vein the affected extremity is always permanently and considerably enlarged, and there is usually more or less persisting disability—extensive varicosities, often resulting in ulceration, marked weakness of the limb; frequent cramps in the muscles, especially at night and after over-exertion.

(5) Arteritis and arterial thrombosis are more frequent complications of typhoid fever than is generally recognized.

These complications appear to be especially common in the cerebral vessels, although they may occur in the extremities.

The onset may occur at the height of the disease, but is commoner in the third week, or later. As in the case of phlebitis, the attack is often ushered in by fever and leucocytosis.

In the extremities, arterial thrombosis is commonly followed by gangrene; in the cerebral vessels, by hemiplegia.

Arteritis in the extremities may be associated with partial parietal thrombosis from which nearly complete recovery may occur. In one of our instances, the patient, a year and a half after his fever, showed characteristic symptoms of intermittent claudication.

(6) A survey of our pathological material would suggest that typhoid fever may be a not infrequent cause of focal arteriosclerotic changes.

In 21 out of 52 cases in which notes upon the condition of the aorta were made, there were evidences of fresh endarteritis.

In 13 out of 62 cases in which the condition of the coronary arteries was recorded like changes were found.

This idea is further supported by the remarkable frequency with which sclerosis of the peripheral vessels was found in our old typhoids.

(7) While the deleterious influence of typhoid fever upon the cardio-vascular system is not as great as that of acute rheumatism, yet through the unfortunate frequency of the disease in this country, it is probable that post-typhoid cardio-vascular defects are not uncommon. It would be wise for the practicing physician to bear this in mind, and, wherever possible, to keep his typhoid patients under observation for several years following the disease.

CRANIAL INJURIES, WITH REPORT OF CASES.

By William Henry Robertson, M. D., of Clayton.

Junior Counsellor of The Medical Association of the State of Alabama.

In the lottery of location in medical life, it has occurred that many of us are very unfortunate in that we must fight, single handed, many of the battles for the lives of the still more unfortunate victims that come under our surgical care.

Living, as many of us do, at some distance from the larger towns and cities in which are to be found the best hospital advantages and the best equipped surgeons, both mentally and instrumentally, we can ill afford even a trained nurse or an inexperienced anæsthetist. So, we must, without the aid of consultation or advice, decide some of the most perplexing questions that can possibly arise in a surgical practice.

Of all emergency surgical cases which occur in a general practice, those involving injury to the human skull most often claim our attention. Cranial injuries, then, is a subject of great importance to all of us and it is one that should appeal very forcibly to every country doctor for his most careful consideration and his most painstaking investigation.

I regret, gentlemen, that this paper, which is confessedly unscientific and without instruction in anything new or old, must appear somewhat in the form of a criticism. So, I must in the outset beg the pardon of all who may feel that they might "wear with comfort" the cap that is being thrust upon them. And to prevent a sudden rise in temperature about the facial expression of any brother present, I shall use largely in this connection the pronouns "we," "us" and "ours," instead of "you" and "yours."

It has been my good fortune to meet with some country doctors who are really up-to-date, good, surgeons. They, having the energy and perseverance, make—or take, if need be, the time to keep themselves posted on surgical progress and are always ready to take hold of, and to manage, intelligently and successfully, the most intricate traumatic conditions of the human skull. It is quite comforting, Mr. President, to know that

there are a few such men, and in this paper I would make a special plea for a more general and special equipment of the country doctor for the management of cases of head injury. I shall not feel that I have labored in vain, if by this effort I may arouse some interest in this important subject, thereby improving or increasing the chances for the recovery of some unfortunate individual who may receive an injury to his cranium.

For, while it is true that some general practitioners are doing good surgery and are meeting with brilliant success in these emergency cases, there are many who have shown an utter indifference to even minor surgical details; and I feel justified in saying that fifty per cent. of "us" country doctors are apparently ignorant of the symptoms and conditions that would enable us to differentiate with some precision and correctness our cases of concussion and depression.

Many of our best physicians, men of fair ability, doing some of the large and lucrative practices, have shown a great lack of familiarity with such details as would enable them to diagnose and treat successfully any case of head injury that might require surgical interference.

Of course, we can explain in a measure this lack of familiarity by the fact that, as general practitioners, we very rarely meet with any difficult and dangerous cases, and, in consequence, seldom have occasion to refresh our minds with such surgical ideas as were taught us in college, or to add anything further to our knowledge of these conditions. But, says the "narrow minded surgical specialist," (there are none of that kind, Mr. President, who attend our meetings,) as general practitioners we have no right to interfere surgically with this class of cases. And, until many of us are better prepared for the successful management of them, I must admit that we have no such right. While my first proposition is that whenever we can do it without too much increase of danger to our patient by prolonged delay, we should remove him to some well equipped hospital, or call to our aid some surgeon of skill and experience. I say that there need not longer exist any necessity for transporting our cases of head injury all about over the country, looking for a man with brains and energy enough to have qualified himself to do the work which we ought to be able to do; and last, but not least, to pocket the fees that many of us need with which to feed and clothe the wives and children who are so terribly afflicted as to be called ours.

I would not appear in the role of opponent to the liberal patronage that is given to our specialists in surgery who have so generously devoted their time and spent their money in an effort to more thoroughly prepare themselves and equip their institutions for the scientific and successful management of difficult and dangerous surgical conditions. They are worthy of patronage, and, whenever it is practicable, the individual who has received an injury to his cranium should either be transported to them, or have some one of their number called to his assistance. But, I would have you remember, gentlemen, that many of these head injuries are of too severe a nature to admit of moving; and sometimes the injury is so extensive or the compression is so great, that delay would mean death to our patient. The means of transportation may be too rude, or the distance may be too great, to await aid from other places and something must be done and done quickly.

Just here we find ourselves up against a proposition of diagnosis, which, to many of us, is the most formidable barrier to our success as surgeons. Inasmuch as the successful treatment of all head injuries depends so largely upon a correct diagnosis, I deem it advisable to call attention to the importance of "carrying always in your mind the principal diagnostic points."

In this day of activity and progress it will not do to say, "Bill Jones struck John Smith with an axe, a handspike, a gun barrel, or a baseball bat, and broke his head, and I trephined; or I thought his case too bad and just waited, yes, I really could not tell at first how badly he was hurt, so, I just waited until the undertaker pocketed what should have been my fee, and the family mourned the loss of a promising young man. Have any of you known of such an instance? Is there one such fatal result chargeable to the ignorance of anybody present? I hope not. We must be familiar with the symptoms of concussion and compression. We must be able to say, with some degree of precision and correctness, that the man has a comminuted fracture, with or without depression of bone; or a simple fracture, with depression of the inner table; or, perhaps, it is only concussion, or a clot has formed which will soon kill our patient, without the intelligent use of the knife and trephine. It may be easy enough to do the work if we could only determine what to do. We must be able to decide by summing up the symptoms, both subjective and objective, together with a careful recounting (whenever it is obtainable) of the history of the occasion, especially of the kind and character of the weapon, missile, or body used to inflict the injury upon our patient.

And what is more important, we must have a clear idea of the location of special centers in order to decide which, if any of them, have been injured, or are being pressed upon. And just here, gentlemen, let me insist that entirely too little is known about shock, its cause and its probable duration under certain conditions.

More particularly should we study this symptom and its bearing upon the case before us when the patient is under the influence of alcoholic stimulants at the time he was injured. The amount of injury, or probable injury, which has been done to the underlying brain tissue is a great factor in making up the diagnosis, in mapping out the treatment, and especially should it be considered before giving a prognosis of these cases of cranial injury. In cases where you have an injury to the brain, do not forget the great change which has in the quarter of a century taken place in the minds of medical men regarding the tolerance of the brain to traumatic injury and to surgical interference. We no longer look upon the human skull as a sanctuary not to be invaded. Our experience in the vast number of injuries to the brain, which have occurred either by accident or during recent wars, has taught us that surgical procedures could not be more dangerous or injurious than accidental ones. The case reported by Bigelow, of Boston, in which an iron drill an inch in diameter was driven through a man's cerebrum from below upwards and produced only temporary delusions, while for twelve years he followed his ordinary avocations; and that of the famous Dr. Robert Fielding, who was shot with an iron musket ball an inch in diameter, through the temporal bone, it having passed entirely across the floor of the cranium and was discharged thirty years later from an abscess near the angle of the left lower jaw; together with other cases which I might mention, would indicate that the brain will tolerate a wonderful amount of disturbance of its continuity by foreign bodies, especially when there are openings, such as abscesses, fistulæ, or other avenues, for the exit of fluids that may accumulate along the track of the injury. If the respiratory centers are not pressed upon, nor the carotids opened, a large per cent of these cases will recover, even where extensive injury has been done to the brain.

From a careful study of the history of these extreme cases, and from experience with a few cases which seemed hopeless, I am encouraged to attempt to do something for even the most desperate cases, unless the patient is *in articulo mortis*. I can not pass from this point without reference to that class of cases

which, in contradistinction to those just mentioned, is of more frequent occurrence and therefore come under the observation of nearly every physician, and in which the injury seems so trivial that no attendant is called. They are from blows on the head which may or may not produce fracture, or displacement, of bone, but which may be, in a few hours, or later, followed by a sleep which to the laity is so deceptive that while the family or friends think the patient is sleeping so nicely, he has already passed into a stupor from which he may never awake; or he may after a time be aroused, only to become an epileptic for life. Especially is this likely when the patient is young. They sometimes awake from a temporary unconsciousness and pass into convulsions, which are speedily followed by death.

Beware, gentlemen, even when the injury seems very slight, of giving too much assurance that no special harm has been done the child. As intimated before, the diagnosis of these injuries is the most difficult problem, because of the fact that none of the symptoms of pressure are entirely reliable during the first few hours after the receipt of the injury, for the reason that any violence sufficient to produce a fracture is also likely to produce symptoms of concussion, which might be easily mistaken as strong evidence of compression. Of course, it is easy to diagnose a case in which there is an open scalp wound; for, if the opening in the scalp be not sufficiently extensive, we should enlarge it and make such an examination of the skull as would render the diagnosis positive. Bleeding from the ears is practically a sure indication of fracture of the base of the skull, but it is not always present in such cases, since there could be such a hemorrhage only when the line of fracture passed through the petrous portion of the temporal bone. Swelling of the vault of the pharynx and the loss of the sense of smell or vision are points to be noticed; but, the two latter, obviously, cannot always be helpful to us. In compression we have paralysis, which is usually unilateral; but it may be observed bilaterally when there is a very large clot which covers the motor centers of both sides. This paralysis, like the stupor, is more prolonged in compression than in concussion.

The movement of the muscles of the face will be present, or absent, on both sides in concussion, as will also the contraction, or dilatation, of the pupils; while in compression both of these symptoms may appear to a greater or less degree on both sides, though they are usually found on one side only. Stupor is usually much more profound and more prolonged in compres-

sion; and while in concussion it may be very marked, yet, we can usually arouse our patient to a state of semi-consciousness, which can rarely be done in cases of compression. I remember one case, in particular, in which there was a very large clot with an extensive fracture, in which the patient at almost any moment of the twenty-four hours of waiting before operation could be induced to answer questions. His answers were not always rational, but they were sufficiently clear to warrant the delay of a few hours before using the trephine. In compression, we see the facial muscles draw the mouth to one side and we have that familiar puffing and blowing sound produced by the buccinator muscle during respiration. We observe that the pupils are evenly contracted or dilated in concussion, and vomiting, which is a most common symptom of this condition, is rarely seen in compression. But, do not be deceived upon this point, for, in extensive injuries, where we have fracture with depression, or large blood clots, we may have a bilateral array of the symptoms denoting compression. The history of all cases of cranial injury should be carefully considered, when it can be reliably obtained. Many points of interest may thus be noted, such as the character and shape of the instrument used, the direction from whence it came, the position of the patient when he was struck and with what force he probably came in contact with the injuring object. All of these points are helpful, but the most unfailing and positive sign in doubtful cases is that of convulsions. Convulsions may not continue a great while, but if the patient falls in a convulsion immediately after receiving the blow, or if convulsions should occur within a few hours, I am sure that pressure exists in a marked degree. Barring the previous history of any convulsive seizures, we should not hesitate in diagnosis, even when other symptoms denoting compression are not well defined.

The prognosis in all cases of head injury should be given very cautiously, since the most trivial fracture may in so many ways lead to a fatal termination; and, on the other hand, many of those cases which seem altogether beyond the aid of surgical intervention are very quickly and completely relieved by it. In fact, the prognosis depends more largely upon what centers are being pressed upon, and with what promptness the pressure is removed, than upon any particular method of removing it; supposing everything to be done with due regard to asepsis and antisepsis. Practically, all writers upon this subject agree that treatment should consist of removing the pressure quickly, and

in doing this we must not lose our presence of mind, but remember every act of the surgeon should be characterized by coolness and conservatism.

I may have given too much time to what might seem too commonplace to merit your consideration, but I would impress upon you that the observance, or non-observance, of all these points often determines the method of treatment, and perhaps the fate of the patient. The main object of treatment is relief of pressure by free openings through the skull, meninges, and cortical substance, if need be, to reach it. I would emphasize the words, free openings, for there is always danger in small ones. The use of the trephine is indicated in all cases where there is a fracture of the cranium, with probable depression, or where there is a foreign body which is either lodged in the fragments of bone, or has been driven through the membranes into the brain substance. When, however, we have opened the vault of the skull and find that a small bullet has passed into the brain, I deem it unwise to follow it with a probe, since the brain matter being too soft to guide our instrument, we are likely to do more harm than would the bullet, if allowed to remain. The use of the trephine is also indicated in all cases of cortical hemorrhage, or whenever we can be reasonbly certain of a collection of any fluid under the cranium. From personal experience, I would use the trephine in all cases of contusions or blows upon the head which produce coma, even if the coma be of a short duration and is followed by a rise of temperature. The surgical procedure of opening the skull is simple. First of all, a clean shaven head, clean hands and instruments, and clean hot water are necessary. The simple technique which I have adopted will be observed in the reports of cases which are to follow.

Case 1. Male, white, age 17, had been given a heavy blow with a bat, such as we see on the baseball diamond. I saw him in consultation 32 hours after receiving the blow, and learned from the medical attendant that he fell in a convulsion, and when the convulsion had passed off went immediately into a deep stupor, from which he had not been aroused. He had not taken food or drink, nor had he passed any urine or feces. The left pupil was markedly dilated and the right one only a little larger than normal, with reaction to light in neither. There was complete paralysis, both motor and sensory. All extremities were cold with a rectal temperature of 103°F. The pulse was small, feeble, and irregular, while his respiration was 10 to 12 per minute, very labored, and there was great relaxation of the pharyngeal

and buccinator muscles. The scalp was not cut at all, but was much contused and swollen. There was marked depression of a large plate of bone, including both tables, as you may see. The two lines of fracture extended from a point near the center of the left supra-orbital ridge backward; one passing upward near the sagittal suture, and the other dropping down near the temporal fossa, again converging and crossing each other just in rear of the coronal suture and about one inch to the left of the sagittal. The upper line then curved downward and forward to a point just behind the left ear, while the lower one passed across the sagittal suture and, leaving the occipital bone, came forward to a point near the center of the right parietal. The patient's head was given a close shave and carefully disinfected with green soap and water, and then ether and alcohol were freely used, which makes even a greasy scalp practically aseptic. No anesthetic was needed until after the depressed bone and blood clot were removed. A semi-circular incision was made with one stroke of the knife, passing well down upon the skull, and reaching from the center of the left supra-orbital ridge up to, and beyond, the sagittal suture, curving thence downward and backward across the left occipito-parietal suture. The scalp was quickly raised and turned down over the left ear, only a few hemostatic forceps being necessary to prevent bleeding. Being thus laid bare, the two lines of fracture above described were plainly marked by an oozing of a dark thick blood.

The trephine was used at the crossing of the two lines of fracture, and with strong forceps the depressed section of bone was quickly removed. Between the dura and the skull, we found a blood clot one-fourth to one-half an inch thick which had separated the dura for a space of two and a half by five inches. It was found necessary to remove a great deal of the skull, which was done with the rongeur forceps, and the bleeding vessels were picked up with a small curved needle carrying a fine catgut ligature. The pressure being now removed our patient showed signs of life, and we began slowly the use of the anæsthetic. The capillary hemorrhage was soon checked by hot cloths, gently pressed against the dura, and after thoroughly cleansing the wound and making sure that all the blood clots had been removed the scalp was closed with interrupted silkworm gut sutures and left without any effort at drainage. It was agreed, however, that the attending physician, Dr. J. W. Haygood, should examine the wound thirty-six hours later, and remove one of the stitches if necessary to allow the escape of se-

rum, should it accumulate in sufficient quantities to make pressure. This he did and about two ounces of serum were drained off. The wound healed kindly and we removed the sutures on the fifth day. Before we could cleanse and dry our instruments, this patient arose without assistance from his bed and stood erect, holding a urinal in his hand, and making an effort to empty his bladder. Of course he fainted but was caught before he fell to the floor, and was quickly placed in bed. In a few hours the stupor was gone and the patient's mind was entirely clear. For quite a while since his recovery he has been a student in the Eufaula District School, where he has displayed as much intellect as before. He is still strong and vigorous and has developed no epilepsy or other evidence of injury from loss of that great amount of skull.

Case 2. The patient was seen after he had encountered a load of buckshot, which entered his skull just above the left eye, ranging obliquely upward and backward and passing out at a point near the parieto-frontal suture, carrying with it all of the tissues above its path. The opening in the skull measured one and a quarter by two and a half inches, and that of the scalp was, of course, much larger. Quite a little bit of the meninges was torn away and there was considerable waste of brain matter. About one hour after being shot this man was seen by Dr. Geo. W. Huey, who, after a hurried examination, was so confident that death would soon relieve him that he made no effort to cleanse the wound, but simply bound it up with a roller bandage, including in its coils the head, hair, blood-clots, brain tissue, dirt and all. The patient was suffering great pain and was given for his relief morphine hypodermically. His shock was very slight, never losing consciousness, and in a short while he took nourishment freely, slept calmly, and when awake would talk pleasantly to those about him, insisting all the while that he was not yet ready to start on a tour of that undiscovered country. When I saw this man about thirty-six hours later his mind was still clear, circulation and respiration fairly good, while his temperature had risen to 102°F. After shaving a large area of the scalp, the wound was carefully cleansed and rendered as thoroughly aseptic as could be, with first a solution of boric acid, then normal salt solution, followed with warm sterile water. After raising the scalp around the bony opening, using rongeur forceps, I very cautiously removed all projecting spiculæ of bone, and, with small curved scissors, cut away several threads of dura; then, with scissors, forceps, and spoon I

removed, very gently of course, every particle of loose or injured brain substance, in all about three fluid drachms, without exciting much hemorrhage. It being impossible to co-apt the torn edges of the dura and those of the scalp as well, no effort was made at stitching. After the free use of a warm saline solution, a dressing of sterilized gauze, absorbent cotton, oil silk, and a bandage, was applied and all securely held in position by a snugly fitting night cap. The patient rallied promptly from the anæsthetic, showed wonderfully little shock, considering the amount of actual interference with and the great loss of cerebral tissue. The dressings were renewed every third day, while the surface granulated nicely and came rapidly together, closing the wound entirely in about four weeks. To our great surprise and comfort, the conglomeration of tissues which composed the cicatricial covering of this wound, did not give him pain at all, and our patient's mental condition was quite as good afterwards as before the operation. During the subsequent six months a close watch was kept over him and he developed no epilepsy nor other symptoms of pressure upon the cerebrum. I had determined to watch this man, expecting, of course, that some such symptoms would in the course of time make their appearance. But, further observation was made impossible by a neighbor, who attacked him with a Winchester, and though his aim was true and every ball passed entirely through the body, he found it necessary to pursue his victim and fire the fourth time in order to kill him.

Now, Mr. President, no extra amount of surgical skill or experience was exercised in the management of these cases and happily both recovered, as have several others of equal interest. A reasonable supply of instruments and dressings, a fair knowledge of regional and surgical anatomy, a moderate degree of familiarity with surgical technique, along with the cardinal points in the diagnosis of head injuries, and the courage to do all that ought to be done, are the requisites.

Another case which did not terminate so happily illustrates very forcibly, and very sadly, too, in this instance, the great necessity for a more extended and careful study of the special centers which are likely to be injured by accidents to the cranium. And this case will also impress upon our minds the necessity of pursuing our examinations far enough to ascertain whether there are other injuries, such as fracture or dislocation of the spine.

This was a strong, healthy, young negro, upon whom a tree had fallen some twenty hours before my arrival. There was

quite a good deal of bruising and swelling of the scalp, and an injury, which, to the attending physician, seemed to be a fracture with depression and a blood clot that probably covered the motor centers of both sides, thus accounting for the complete paralysis that was present from the shoulders down. He could not move his hands except in a very slight rotary motion, and his legs and feet were as still as if hewn out of marble. Except in the mouth all secretions and excretions were nil. As did my friend, the attending physician, I too quickly arrived at the conclusion that this extensive fracture and its consequent injury to or pressure upon the underlying brain was responsible for all of this array of symptoms. And without making a thorough examination of the spine, we trephined in two places without finding sufficient injury to, or pressure upon, the brain to account for the paralysis. We felt quite sure that a large blood clot might be found at or near the base of the brain, but did not further attempt to find it. Without having injured the meninges in any way, we closed the scalp wound in the usual manner and awaited developments, which came a few hours later in the form of a violent spinal meningitis, due, unquestionably, to a fracture of the spinal column about the dorso-lumbar junction, with probable contusion of, or pressure upon, the cord. I did not see this man after the operation, but was informed that death came to his relief after forty-eight hours of intense suffering. No amount of skill or care which might have been exercised would have saved his life, but I must confess that my recollection of this case is not comforting.

Did time allow, I could report some other cases, the recollections of which are much more pleasant. But, if only our successful cases are reported, there would be a lack of brightness in the light houses which should keep our less experienced brethren off the rocky shores of the surgical sea. I do not claim that we can become really expert in every branch of the science, but I insist that we should overcome that lack of self-confidence which is so common among general practitioners. It is clearly our duty, both to ourselves and to our patients, to become fairly proficient in the diagnosis and treatment of these emergency cases of cranial injury. Every one of us possessing the ability to practice general medicine can in some way find time and opportunity to equip ourselves for success in this line of work. It will not only be the best financial investment of a lifetime, but will add abundantly to our ease of conscience and to the future happiness and comfort of our patients.

Every moment of our professional life is one of great responsibility, filled with duties which demand of us the exercise of a sound mind and a discriminating judgment. We should so train our minds that in all emergency cases we may really observe the symptoms, and quickly give to them that intelligent comprehension and consideration that will at once point us to a correct diagnosis and guide us in successful treatment.

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By William Jones Kernaghan, of Florence.

Member of The Medical Association of the State of Alabama.

The State Constitution recently adopted declares that the Creator endowed men with inalienable rights, viz., life, liberty, and the pursuit of happiness. If this declaration was fact, man would be an immortal, and earth an Eden. Painfully and pitifully true, however, so long as the pale horse, Disease, shall, unchallenged and unrestrained, be allowed to bring to every hearth-stone the untimely warrant of premature death, just so long will happiness typify the will-o'-the-wisp, liberty the straight jacket, and life the veiled skeleton.

What is meant by premature death? Not only all those who in a condition of health shall receive such physical injury as shall result *per se* in death, but, in addition, all those who shall die of disease, both hereditary and acquired, which science through sanitation should either hold in check, modify, or cure. It is probable that this learned body while demanding fitting recognition for medication, recognize if cremation was the universal law for all diseased excretions in conjunction with the prompt incineration of all dead bodies, that wonderful and startling as have been the strides of medicine in the past, that now it for the first time dons its seven-league boots. It is not too much to claim that by and through universal sanitation, including cremation, contagious and infectious diseases would be as impossible upon the earth as snakes in Ireland. If such changes be possible, and they are, why are we so near, yet so far? No one will admit that there can be an effect without a cause, and, if

diligently sought, the close relationship can be finally proven. Upon whose shoulders does the blame for this deplorable condition rest? The reply as regards truth and force will to a certain extent be measured by the surprise and incredulity resulting. Now for the reply: The Physicians of the State of Alabama. The statement has been made and proofs must be brought forward to sustain it. Who are the best people in the world? The women who make the homes from the Tennessee River to Mobile Bay, and from the Chattahoochee to the Tombigbee River, whose power is well expressed by the sweet Southern poet, William Ross Wallace:

"They say that man is mighty,
He governs land and sea;
He wields a mighty scepter
O'er lesser powers that be,
But a mightier power and stronger
Man from his throne has hurled
And the hand that rocks the cradle
Is the hand that rules the world."

Is there any one here that will remain a "doubting Thomas," that if the motherhood of this blessed State can be aroused to a knowledge of the demonstrable fact that a few pitiful dollars expended to prevent disease will not only work miracles more wonderful in the twentieth century than in any century, ancient or modern, that has preceded it; that if she who is not only the agent and emblem of motherhood, but of all else that is pure and good, will formulate her demands so that laws for the protection of her offspring not only will be written in the form "shall be," and all legislators who may have the temerity to oppose them, no matter how at that time they may bask in the sunshine of political favor cooled by the gentle zephyrs of public approval, will find that their political fortunes have encountered a cyclonic tornado, and like some people mentioned in the Bible, it would be better for them had they never been born. Who can carry this message of truth to the mother heart? None so well as the modern disciple of Æsculapius, who has done so much not only to soothe the travail of child birth, but whose skilled hand now saves the lives of both mother and child who, a few years ago, would have been doomed to agonizing and pitiful death. I am aware that at the recent session of the Legislature, when some bill connected with the public health was under consideration, a distinguished gentleman alluded to "The Medical

Every moment of our professional life is one of great responsibility, filled with duties which demand of us the exercise of a sound mind and a discriminating judgment. We should so train our minds that in all emergency cases we may really observe the symptoms, and quickly give to them that intelligent comprehension and consideration that will at once point us to a correct diagnosis and guide us in successful treatment.

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quite a good deal of bruising and swelling of the scalp, and an injury, which, to the attending physician, seemed to be a fracture with depression and a blood clot that probably covered the motor centers of both sides, thus accounting for the complete paralysis that was present from the shoulders down. He could not move his hands except in a very slight rotary motion, and his legs and feet were as still as if hewn out of marble. Except in the mouth all secretions and excretions were nil. As did my friend, the attending physician, I too quickly arrived at the conclusion that this extensive fracture and its consequent injury to or pressure upon the underlying brain was responsible for all of this array of symptoms. And without making a thorough examination of the spine, we trephined in two places without finding sufficient injury to, or pressure upon, the brain to account for the paralysis. We felt quite sure that a large blood clot might be found at or near the base of the brain, but did not further attempt to find it. Without having injured the meninges in any way, we closed the scalp wound in the usual manner and awaited developments, which came a few hours later in the form of a violent spinal meningitis, due, unquestionably, to a fracture of the spinal column about the dorso-lumbar junction, with probable contusion of, or pressure upon, the cord. I did not see this man after the operation, but was informed that death came to his relief after forty-eight hours of intense suffering. No amount of skill or care which might have been exercised would have saved his life, but I must confess that my recollection of this case is not comforting.

Did time allow, I could report some other cases, the recollections of which are much more pleasant. But, if only our successful cases are reported, there would be a lack of brightness in the light houses which should keep our less experienced brethren off the rocky shores of the surgical sea. I do not claim that we can become really expert in every branch of the science, but I insist that we should overcome that lack of self-confidence which is so common among general practitioners. It is clearly our duty, both to ourselves and to our patients, to become fairly proficient in the diagnosis and treatment of these emergency cases of cranial injury. Every one of us possessing the ability to practice general medicine can in some way find time and opportunity to equip ourselves for success in this line of work. It will not only be the best financial investment of a lifetime, but will add abundantly to our ease of conscience and to the future happiness and comfort of our patients.

Every moment of our professional life is one of great responsibility, filled with duties which demand of us the exercise of a sound mind and a discriminating judgment. We should so train our minds that in all emergency cases we may really observe the symptoms, and quickly give to them that intelligent comprehension and consideration that will at once point us to a correct diagnosis and guide us in successful treatment.

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chairman and be vested with powers in relation to the enforcement of the laws relating to public health second only to the State Board of Health.

Sec. 7. The district health officer shall be the executive officer of the district board of health, and shall keep open an office in the district where he shall be found, when not officially absent. He shall collect and collate the influence of locality and employment upon the public health of his district, and whenever, in his judgment, reasonable measures can be taken to improve existing circumstances, he shall furnish such recommendations in writing, as conditions may warrant, to the proper authorities, retaining copies thereof, and shall use all legitimate means to secure their enforcement. If practicable, he shall attend each session of the circuit court in his district, and shall make a careful examination of the court house, jail, and almshouse and make a detailed report to the grand jury for their information, so that they may issue such instructions as may correct any evil that exists due either to ignorance or neglect. He shall upon some night during the term of the court deliver an address upon a subject relating to public health, illustrating the same by chemical experiments, stereopticon views, or such other means as he may decide will produce the most lasting benefit; inviting thereto not only those in attendance upon the court, but also the general public. He shall consolidate, each month, the reports of all the county health officers of his district and forward to the State Health Officer for his information. Under the direction of the District Board of Health, he shall devote his whole time and attention to the improvement of the health conditions of his district.

Sec. 8. The State Health Officer shall be the executive officer of the State Board of Health, and shall exercise a general supervision over the district and county health officers, and shall report promptly to their respective boards of health any delinquencies of both district and county health officers, retaining a copy of all such reports. He shall consolidate the health reports forwarded to him monthly by the district health officers; and not only shall he take all possible means to eradicate all existing diseases within the State, but he shall also keep in communication with health authorities external to the State, so that by quarantine and all legal measures which he may command he shall prevent the introduction into the State of anything which may jeopardize its health. He shall pursue lines of original investigation into the cause and prevention of disease. He

Sec. 3. That upon the completion by the junior district health officer of all the districts of this State of a term of four years of service by himself or successors, then the district health officer of four years continuous service who is physically sound (temporary illness or accident shall not debar) who in the opinion of the State Board of Health has been most efficient shall be commissioned state health officer.

Sec. 4. All the officers above mentioned shall be commissioned by the governor, and their pay shall be governed by date of commission.

Sec. 5. County health officers shall be the executive officers of their respective county boards of health and shall be furnished by the court of county commissioners with a suitable office, if possible in the court house, where they shall be found within reasonable hours, except when their executive duties shall demand their presence elsewhere. In addition to the duties at present required of them by law, they shall, by chemistry, microscopy and allied sciences, upon request, and without additional charge, aid the physicians of the county in making differential diagnoses. In perfoming this duty they shall inform themselves where their services are most needed. They shall each year, whenever practicable, attend the Teachers Institutes held in the county, and visit every public school while in session and deliver lectures upon Sanitation and Hygiene after making an investigation of the location and the drainage, the heating, lighting, ventilation, cubic air space, cleanliness, strength and durability of the building, and of the clothing and persons of the pupils as regards comfort and cleanliness, remediable defects of form and senses, particularly of sight and hearing, and of all transmissible affections, whether infectious, contagious, or parasitic. They must examine the public water supply, not only that of cities and towns, but of all churches and public schools, and they shall extend this examination, upon individual request, to any home in the county, however humble. After each examination that may be made, such changes and modifications as may be deemed advisable shall be submitted in writing to the person or persons in authority, a copy of same being subject to public inspection. They must not only date their communications, but must proceed without delay, by legal means if necessary, to carry the suggestions into full force and effect.

Sec. 6. District boards of health shall be composed of the chairmen of the county boards of health of their respective congressional districts; the senior member of the body shall act as

chairman and be vested with powers in relation to the enforcement of the laws relating to public health second only to the State Board of Health.

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shall inspect, and report upon, the sanitary condition of State institutions, including the capitol, the penitentiary, the insane asylums, and the universities and colleges, furnishing to persons in authority a copy of needed changes, preserving a personal copy; and he shall take such legal steps as may be necessary to see that his instructions meet prompt execution.

Sec. 9. The salaries of all health officers shall be paid monthly from the State Treasury when approved by the Chairman of the State Board of Health The salary of each county health officer shall be twelve hundred dollars per year; the salary of each district health officer shall be eighteen hundred dollars per year; the salary of the State health officer shall be twenty-five hundred dollars per year; provided further that the legislative bodies of the respective officers may, if they deem best, add to this annual salary such amount as onerous duty, extraordinary efficiency, or talent, may justify.

Sec. 10. Whenever written charges of neglect of duty shall be filed with the chairman of the board of health against the executive officer of said board, the chairman shall at once furnish each member a copy of said charges; and if in the judgment of one-third of the members of said board the charges are worthy of investigation, the chairman shall call a meeting of the board as soon as practicable. A majority of said board shall constitute a quorum to proceed with the trial, and the judgment of a majority of the quorum shall be the judgment of the board, their power extending from acquittal to dishonorable dismissal, with forfeiture of all unpaid salary. From the judgment of minor boards an appeal may be made to the State Board of Health.

The law which I have just read is simply an extension and betterment of our existing system. It will cost the State $100,000.

The benefits which will accrue are so self-evident and manifold that the financial gain accruing to the State can only be truthfully expressed in terms of an hundred fold. Health and resulting happiness, what are they worth? "More to be desired are they than gold, yea, than much fine gold; sweeter also than the honey and the honey comb." We have a body, a great body, a necessary body, in this State generally called the judiciary, extending from the exalted chief justice to the humble beat constable, whose functions, in a great measure, extend to the protection of property, and, in a limited degree, to the protection of health and life. I am told by well informed legal

friends that a minimum estimate of the annual cost of this valuable body is at least $1,000,000; and no one well informed will cry out altruism when the statement is made that if light and health could supersede in this State darkness and disease, there must follow mental advance, physical improvement, and moral uplift; proving that a healthy mind and a sound body is the highest ideal to be sought; physical disease and mental depravity—the Scylla and Charybdis upon which the race destroying sirens hold now their hideous carnival of death—would soon be exterminated.

This law is so formed that all the people of this State would soon be well informed concerning conditions which are essential to mental vigor and bodily health, thus removing ignorance and its hand-maiden, superstition. The true unit of value is a day's labor, and this unit of value, valuable in ratio as it is continuous. In cases of illness, it is not simply the loss of the individual unit, for all military authorities, where individual as well as mass movements are reduced to a science, agree that it takes six well men to properly care for one sick one. If this be the case where organization is carried as near perfection as possible, how grievous a burden and by how many it must be borne under the conditions now existing in this State. The problem to be solved is not to reduce the number of attendants upon the sick, but to reduce the number of sick, now and forever. How attractive a home is made by the healthy howl of children. Doctors, more than any profession, feel a heartfelt sympathy for the poor disappointed woman whose only pet at home and abroad is a miserable lap dog warranted to neither bark nor bite. God speed the day when all families will be large and marrying plentiful, like it was "befo' de wah," and three score and ten the rule, and not the exception.

DISCUSSION.

Dr. Sanders: I have listened to the paper just read with special interest, bearing as it does upon a subject with which, as the members of the Association know, I have for the past seven or eight years been brought into close and official contact.

In order to discuss a paper of this kind adequately and exhaustively, it would be necessary to read with considerable care the paper itself. It is hardly possible by hearing such a paper rapidly read to analyze, digest, and connect all the propositions submitted in such way as to feel justified in pronouncing final judgment upon them.

The author of the paper seems to propose a public health system for which I infer he claims superiority over our existing system. I would be very loath to admit that our present system could be improved upon. I have been in the habit of regarding it as a model, and one which accords with our system of civil government. In organizing a public health system, that is one of the first requisites, namely, it must strictly harmonize with the civil government to which it belongs. Our present public health system in this State accords with a democratic federal republic, such a government as ours is, and in which the people are the source of power. Our system would not be at all adapted to a monarchical form of government, or one in which the source of power lies in a king. Undoubtedly, one of the great difficulties which confronts us in establishing and building up a public health system of any kind in this State, as well as in other States, is a lack of education on these matters among our people.

A public health system in this country is a new growth, not dating back perhaps for any of the States more than thirty years. Beyond that period the States had practically no system. A public health system, therefore, is a matter of evolution, and possibly when our people realize the importance of such a system, then, they may be prepared to give such systems adequate financial support. The practical difficulty which confronts us, as you all know, is to convince our lawmakers that health officers are entitled to any salaries whatever. According to the existing system in this State, the counties and municipalities must provide salaries for their respective health officers. If it has been difficult heretofore to persuade our lawmakers to appropriate the small sum they have done to maintain a public health system for the State, as you all know has been the case, it will perhaps be a very long time before they could be persuaded to appropriate one hundred thousand dollars for maintaining such a system, the amount the author of the paper estimated would be necessary to operate the system he describes. I do not intend to criticise or object to the plan proposed until I have had more time to study it. It may possess merits, but, as I have said before, I shall reserve final judgment until I shall have had time to thoroughly analyze the paper. I feel justified, however, in saying now that the system proposed is far in advance of the educational status of our people as to the moneyed value of a public health system. Possibly they may in time reach such a degree of education as will bring their courage up to the point of appropriating money for this purpose as liberally as the figures given by the doctor.

Dr. McWhorter: I will say that I am glad that this paper succeeded in eliciting some discussion which the preceding paper, to which we listened, so richly merited yet failed to receive. Now, the distinguished physician, Dr. Sanders, said that he would be sorry to think that any improvement could be made in our existing health laws. With all due defference to the gentleman, I would say, that I would be profoundly sorry to think that improvements could not be made.

Dr. Sanders: I did not intend to say that no improvement could be made in our public health *laws*. I think the gentleman misquotes me.

Dr. Kernachan: I think you said there could be no improvement in our public health laws.

Dr. Sanders: I said *system*. Our *system* is one thing, and our *public health laws* another thing. Our public health system, we as physicians may make, or propose. The lawmakers make the laws.

Dr. McWhorter: I gladly accept the explanation of the gentleman, for I believe that he, as well as myself, would not wish to see the wheels of progress stayed; as would be the result if he held any such view as I understood him to have advocated in that expression. Do not understand me as endorsing the system advocated by the gentleman who read this paper. In the short time that we listened to it, as the first speaker said, it is impossible to form a very intelligent conclusion as to its merits. I do not wish to institute any comparison between that paper and existing laws, or to claim any superiority for it, or even equality with it. However, it does not seem possible that the character and ability of the gentleman would lead us to believe that he has made a radical departure from the existing system, and provided the machinery to carry it into effect. Now, if he has advocated a radical departure, he is a little in advance of his contemporaries, but I will wait until I read it. But if we are to make progress, we must begin this campaign of education. Without referring to the merits of the system, he emphasizes one or two features which strike me favorably. One of which is, requiring a higher standard for our health officers; and the other is, a liberal appropriation from the State of Alabama for the purpose of establishing sanitary conditions. It may seem

strange that the gentleman should stand before you and advocate an expenditure of one hundred thousand dollars for sanitary purposes, but the total expense of the State of Alabama is approximately three million dollars, and the amount which he proposes to expend for sanitary purposes only reached one-thirtieth of the total amount. Before the twentieth century has reached its zenith, men will wonder, not that he should advocate the expending of so much, but that he should be so modest as to ask for only one hundred thousand dollars.

Dr. Sanders: I had about concluded my explanation of what I did say. I will say, however, that I wish the gentleman to understand fully the objection I make. Our public health system is one thing, and the laws which our lawmakers give us another thing. Our system I believe to be quite logical and complete and admirably adapted to our form of government, and if the lawmakers will give us the laws we need to operate the system, then, I do not think that any fault can be laid at the door of the system. Any defect that attracts the attention of the people comes from defective legislation, and not from a defective system.

Dr. LeGrand: I find, in reading the Book of Rules, that the Solomon of the State Medical Association said that, by and by—I do not use exactly the same language—the time would come when men would think that they saw a better system, and want a change. My opinion is that the system of laws is just beginning to be felt in the State of Alabama. Under the efficient work that our State Health Officer is doing, and under the efficient work which our county health officers are doing, and the hearty approval which our lawmakers are giving, it seems to me unwise that our strong men, on occasions like this, should indicate that they are dissatisfied with the magnificent system which we have. The system now used is not only attracting the doctors of Alabama and the doctors of the South, but it is now under the consideration of doctors throughout this country; and I say that this is the system for us today. Maybe we appear to be moving slowly, but let us move slowly and move safely. My judgment is that it is unwise for our intelligent, strong men of this Association, with the conditions which confront us, to intimate that they are dissatisfied with our system. Let us stand by it.

Dr. Moody: I thought that I would not say anything to-night. I was just thinking of an illustration of the difference between our health laws and our health system. I think we could liken our system to the plans drawn by skillful engineers, men who have spent their lives in that profession. They put them down upon paper, and they become a system; that is the first step; but the elements of nature, the difficulty of controlling men—of securing material—may, for a long time, hinder the completion of the plan which was indicated upon the paper which was advanced for them to act upon. Just so, I believe, we can consider our public health system. Beginning with the most prominent scientist of sanitation years ago, followed by an able successor, there stands for it one of the most experienced and careful men of this Association. They have drawn up plans for our use, and they expect us to build and perfect the working machinery of the already perfect plan. And this may be used as an illustration of the system. It is, as the State Health Officer said, a matter of evolution; it must grow along the lines of experience until the legislators are convinced that our demand in such matters is for the best interests of the people, and then they will give us the legislation which we require.

Dr. Sholl: I am bold to say, after familiar acquaintance with the workings of this system of laws for a quarter of a century or more, that a more perfect system cannot be created. Whenever the Almighty, in His infinite wisdom, shall create a greater brain than that of Jerome Cochran, then there may be a more perfect system evolved, but until that time comes, I do not think there can be any improvement upon the system itself. The fault is not in the system, but the fault is in the working of the system, in the ability to carry it out. It is simple enough, and it only requires an educated process of years in which our brilliant men who are coming on are growing, to evolve this process so that this perfect system shall be carried out as near to perfection in its workings as it deserves. No more perfect system, in its way, adapted to our form of government, can be created than that which emanated from the brain of that great master of systems, Jerome Cochran.

Dr. Kernachan: We have all heard of the boy that could not swim, and of how the careful mother admonished him not to go into the water until he did learn to swim. In making the suggestions that I have, I have not attacked the memory of Dr.

Cochran. I fight nobody; but to say that anything on this earth is perfect and complete, while living or dead, system or law, or what ever you may call it, is simply to say that we set a standard and die by it. Stillness means what? It means rot and death. Now, what provoked the gentleman to use the term "monarchical" I do not know. We have not had any monarchy over in this country in a long time, and I did not say anything about kings or queens, but I was talking about State's rights, and if States' rights are not democratic I do not know what is.

Now, as regards this paper, it may be as full of mistakes as some of these roofs are full of holes, but if there is one germ of truth in it—a single element of advance—in God's name have the manhood to stand to it, and recognize its worth. If men had taken the position that these gentlemen bring forward, there would never have been any advance in the world; John Wesley would have been laughed at; and Martin Luther would have been called a fool, and an imposter, and it is foolish to stand up and say that one man is the incarnation of wisdom, and all others are idiots. There is no use in differentiating between the law and the system. When you define the one and define the other, it is the difference between tweedle-dum and tweedle-dee. It will not do to say that the system is perfect, that it cannot be improved upon, and that now is not the time to announce this doctrine. To-day is the time, and the time for every man to work. There are no more exalted men in any profession on the earth, and it stands higher on the domes of science than any other. We must not say that we will stop here; we must not think that we have gotten perfect, and that the system could not be improved upon. Cochran was one of the greatest men that ever graced our profession, and I will add the name of J. Marion Sims, and characterize them as the two noblest sons that Alabama can furnish to the Hall of Fame.

Dr. Sanders: Mr. President, I now rise to a question of personal privilege.

Chair: The gentleman has that privilege.

Dr. Sanders: I am sure, in using the word "monarchical" I did not intend, in the least, to reflect upon the contents of the paper. On the contrary, I stated that I would read the paper with a great deal of interest, and regretted that I had not had the opportunity of seeing the paper before it was read here. I simply announced a general proposition—that our system was adapted to our form of government. In announcing a proposition of that sort, I am sure it carried no reflection whatever upon the contents of the paper.

INTRA-TRACHEAL INJECTIONS IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

By William Weightman Mangum, M. D., of Eufaula.
Member of The Medical Association of the State of Alabama.

Since the very earliest history of our profession, among the many puzzling conditions which medical men have been called upon to alleviate and remove, there has been one disease which has ever been our stumbling-block; one disease, the ravages of which has made great gaps in the population of every country under Heaven; one disease against which the batteries of organized medicine have been turned for centuries, almost without avail; one disease which, in its later stages, still remains in the list of incurables. The large number of papers, treating of this disease, upon the programme of every meeting of physicians where diseases and remedies are to be discussed, shows the universal interest with which it is invested, and the tireless efforts made by our profession to find a remedy; and it is for the purpose of presenting a new method of combating this dread condition, with a report of results obtained, that I am here before you. I refer to Pulmonary Tuberculosis.

In a retrospective glance at the history of this disease, we see doctrine following doctrine, in endless succession; as waves succeed waves upon the ocean, or as the foliage of autumn falls, to be succeeded by the leaves of spring. One theory appears upon the stage, culminates for a while in meridian splendor, and then sinks down into obscurity, with all that have gone before. But, happily, for the cause of humanity and for the advancement of science, exploded doctrines, falling, fertilize the field of research, and render future harvests more luxuriant. If I had the time to-day for a proper presentation of this matter, I would like to go into the history of these theories in detail; it would make an interesting discussion. Suffice it to say, however, that since the adoption of the theory that the disease is dependent upon the presence in the system of a special-micro-organism, the efforts of physicians have been mainly directed toward the discovery of an efficient parasiticide, which might be

administered either by inhalation, or by its introduction into the blood.

Both of these methods have been exhaustively discussed for years. Various derivatives of various germicides have been experimented with, each having many adherents, and still there seems to be "no balm in Gilead." All of these remedies are quickly destructive to bacteria outside the body; but a difficulty in the way of inhalation is in getting a sufficient quantity of either an impalpable powder, or a vapor, or a gas, in reach of the colonies of bacilli without doing injury to the tissues, or inducing toxæmia. As regards the introduction of parasiticides into the blood, it seems hardly probable that a toxic agent can be safely administered in sufficient quantity to effect the object. At least, so far, it has not been done, and it remains to be determined by clinical experience whether these difficulties are insuperable. In the meantime, what other method is left to us? It is universally conceded that whatever remedy may be successfully used, must be locally applied. How may this be done?

A good many years ago, Brainerd, of Chicago, experimented largely with the injection of tuberculous cavities, through an opening made in the chest wall; hoping by this means to arrest the disease by the germicidal action of the solution injected. It was unavailing, however, because of the fact that the cavities were walled off to themselves, and the medicament used went no further than these walls.

So then, the inhalation method, the introduction of a parasiticide into the blood, and the injection of cavities through an opening in the chest wall, having, after exhaustive experimentation, failed to succeed, there can be only one other means by which the diseased surface may be reached, and I am here today to report results obtained from the use of this method. I refer to intra-tracheal injection.

I was induced to make my first experiment with this treatment by a little paragraph in Nothnagel's Practice, in the volume of Diseases of the Bronchi, Pleura, and Lungs, in which it is said that "in the treatment of pulmonary conditions, the injection of drugs directly through the glottis into the trachea deserves to be more generally used."

In studying the question as to the practicability of this method of applying drugs locally to the diseased surface, I searched diligently through all literature available, in the attempt to find if the treatment had ever been used, but could locate no such report. Occasional references were found in which it was dis-

cussed as a theory, but no instance of its actual use. My interest in the matter became more absorbing as I considered its advantages, and I finally obtained my consent to risk what might seem a dangerous procedure. The first attempt being successful, I adopted it as a routine practice in all of my tuberculous cases, and have in each instance had my belief in its practical utility verified.

The drug I have used is ichthyol. This is, as all of you know, a natural product, obtained by dry distillation from a bituminous mineral found in the Tyrol, containing a large percentage of sulphur. It is a powerful vaso-motor constrictor on mucous surfaces, thereby causing a rapid disappearance of hyperemia, and of the pain of congestion. It can penetrate the unbroken skin, showing its great diffusibility. It promotes such metabolism as sulphur is concerned with. It is a decided antiseptic, being quickly fatal to all pathogenic organisms. With a knowledge of these facts in mind, I determined to experiment along the line suggested above, and remarkable indeed have been the results. The ichthyol was applied mixed with cod liver oil, in the proportion of five per cent.; the quantity to be injected being combined as the treatment was administered.

The technique of this little operation is identical with the method by which intubation is performed, though there is, of course, not by any means so great a difficulty in manipulating through a normal larynx, even on the most delicate subject, as in cases where diphtheritic deposits, or croupous spasms, have almost entirely closed the chink of the glottis. Indeed, I might say, there is no difficulty whatever, provided a knowledge of the anatomy of the larynx is borne in mind, and the reduplications of the mucous lining upon either side of the vocal cords are not mistaken for the glottis itself.

The instrument used is one I have had made for me by Betz, of Chicago, consisting of an ordinary hard rubber piston syringe, with the nozzle curved into a beak. With the mouth gag in place, the index finger of the left hand is introduced, the epiglottis is lifted out of the way, and the nozzle is passed on this finger as a guide directly down through the glottis, until the tip is below the cords and well within the trachea. One drachm of the mixture described above is immediately injected, the patient being directed to take a deep inhalation as the syringe is withdrawn, so that no portion of the oil is brought up into the larynx, where it would, of course, at once excite a violent spasm of coughing. This procedure must be accomplished while the

patient is holding the breath, and usually requires, after some experience, from thirty seconds to one minute. The object in the inhalation as the syringe is withdrawn, is that the oil may be forced, by the influx of air, deep down below the bifurcation of the bronchi, where, by its adhesiveness, it is spread along the mucous membrane of the tubes, giving free ingress and egress to th air, and interfering in no way, as a watery solution would, with respiration. Usually a few bubbling rales are all that can be heard to indicate the presence of fluid in the chest, and these rapidly disappear as the oil is absorbed.

The introduction of the syringe point is, of course, at first objectionable and disagreeable to the patient, just as the introduction of a lavage tube into the stomach is disagreeable; but after a few treatments tolerance is established, and, as in lavage, they soon learn to take it with no discomfort.

In the beginning the injections are administered daily, the intervals being gradually increased as the patient improves. In the cases which I have here to report, the average time in which daily injections were required is four weeks. A more protracted treatment being, of course, necessary in the far advanced, and a shorter time in the milder, cases. Some of these cases were in my own practice; the others being in the practice of several professional brethren who kindly assisted me in these experiments, and in accumulating these statistics. Four are reported from Paris where there are still others under treatment. I have not grouped them according to the stage of the disease, but have only arranged them in the order in which this treatment was begun.

I will read here two of these reports in detail, as samples from the number which have been sent to me. These will show very nicely the prompt relief obtained from certain symptoms, and the steady improvement in all.

White, female, age 28 years, excessive cough, profuse expectoration, great emaciation, absence of menses. Duration of the disease, two and a half years. Microscopic examination of sputum showed tubercle bacilli in large numbers. Weight 87 pounds. This treatment was begun June 17, 1903. At that time the morning temperature was normal, respiration 28, pulse 104; afternoon temperature 101, respiration 36, pulse 120. Injections were administered daily. June 27th, one week from beginning of treatment, cough much better, less expectoration, morning temperature normal, respiration 22, pulse 95; afternoon temperature 100, respiration 30, pulse 110. July 4th, two

weeks, only coughs badly at night after lying down; very little expectoration; weight 89 pounds; night sweats disappeared; afternoon temperature 99 1-5, respiration 20, pulse 80. July 18th, four weeks, weight 95 pounds, cough entirely relieved; afternoon temperature, respiration, and pulse normal; good appetite, and gaining strength rapidly. August 1st, six weeks weight 100. August 29th, ten weeks, weight 110, feels perfectly well; microscope, in small amount of sputum she succeeded in raising, showing no tubercle bacilli. September 26, fourteen weeks, weight 112 pounds; patient looking strong and well, and making her living as seamstress. Reported from El Paso, Texas.

The other sample case I have selected is that of a lady of refinement and intelligence, 48 years of age, who had been suffering from the disease for two years. Previous to the beginning of this treatment every remedy in reach had been tried. She had been sent one winter to South Florida, and the next to New Mexico; the disease steadily progressing all the while. The intra-tracheal injections were begun July 5th. Her weight was then 90 pounds, and she seemed to be slowly but surely losing ground. Some difficulty was at first experienced in giving the treatment because of the paroxysms of coughing which followed the attempt to introduce the nozzle into the trachea. However, this was largely overcome after a few efforts, and the relief obtained after one week's treatment was most remarkable and unexpected. After three weeks she was awakened only once or twice during the night by coughing spells. After the fourth week there was a complete cessation of the cough at night; feeling very much better than at any time during the two years of her illness; taking considerabe exercise; fever all gone, appetite good. After eighth week, continued improvement, cough entirely gone. At the present time four months from the begining of the injections, she weighs 119 pounds, takes any kind and quantity of exercise she likes, and has no further need of a physician. Reported from Las Vegas, N. M.

Case seven, which is reported as greatly improved, discontinued the treatment because of a change of homes, and would no doubt have been entirely free from the disease in a few more weeks, as the gain of fourteen pounds would indicate.

Case eight, which is reported as in an unsatisfactory condition after sixteen weeks treatment, was a third stage case, in which there were extensive cavities in both lungs, the patient being forty years of age.

Case twelve, which is recorded as a failure, was also a third stage case, of two years duration, the party having been bedridden for some months before treatment was begun.

Cases fourteen and fifteen, reported as improved, were brother and sister, and discontinued treatment because the brother took employment, and could not go with his sister to the office of their physician. One gained fourteen and the other nineteen pounds, and both considered themselves as entirely relieved, though the doctor who treated them was not willing to pronounce them as cured. Of the twenty-one cases, fifteen, or seventy-five per cent, are reported as cured; nineteen, or about ninety-five per cent, are reported as either cured or improved.

I desire to call attention here to the fact that these cases were all carefully diagnosed by physical signs, family history, and the use of the microscope. Some few, seven I believe, had the tuberculin test. In each case reported as cured, the physical signs and the microscope showed the patient free from all evidence of the disease, and they were kept under observation, particularly as to temperature and cough, for four weeks after being discharged. It is now six months since the first cases were discharged, and there has been no recurrence in any so far as I have been able to discover. There are still a number of cases under tratment, which will be reported during the summer, and I hope by September, when I expect to attend the International Congress at Paris, to have in hand probably a hundred reports.

I have addressed a number of medical societies in different cities on this subject during the last few months, but have refused to submit any manuscript for publication previous to this, because of my desire to discuss the matter before this Association, and because I prefer to have a more convincing accumulation of case reports. In one of the recent issues of the Journal of the American Medical Association, I notice that a Dr. Anderson, of Ann Harbor, Mich., is experimenting with these injections on dogs, and has expressed his intention of adopting them in his practice. Dr. Francois Elebach, of Paris, writes me that his success in the four cases treated for me has induced himself and his associate to administer the injections promptly in all incipient cases which come to their Sanitorium, and that they have so far met with uniform success. In this connection I say that I have experienced no difficulty in arousing the interest, and obtaining the co-operation of my professional brethren in these experiments, except in my own State.

I take it but as an illustration of the fact that "a prophet is not without honor save in his own country; and though I have no wish to attempt to pose as a prophet, still, I am assured that there is much good in this method of treating consumption, and that it deserves a trial by every member of this Association, who has such cases to treat, on account of its simplicity, if for no other reason.

We are too much attracted, anyway, by the charm of fine-spun German theories, evolved out of the brain of some impractical chemist; and we satisfy ourselves, even though our patient die, with the questionable consolation that we have at least handled the case in a scientific manner. The regular rise and fall of these chimerae, which we so eagerly grasp even when in the stage of raw empiricism, should teach us that, in all probability, many a tapering monument marks the last resting place of some of the victims of these German illusions. Let us rather work our way with the simpler instruments, with which we are familiar, and not attempt to daub with untempered mortar.

Practically, the good in this treatment has been clearly demonstrated by its results in these cases reported; and results are the "*sine qua non*" of the adoption of any new treatment.

Theoretically, we have but to bear in mind some of the medical properties which I have mentioned as being characteristic of ichthyol, to be convinced of its usefulness when locally applied to an ulcerated surface. I have said that it is a powerful vaso-motor constrictor when applied to mucous surfaces, thereby relieving hyperemia. A hyperemic condition of the mucous lining of the air passages is one of the concomitants of all coughs; hence the promptness with which this distressing symptom was relieved in these cases. I have said that it was a decided anti-septic, being quickly fatal to all pathogenic organisms. Thus is the rapid disappearance of the tubercle bacilli from the specimens examined accounted for. • But, as these tubercle bacilli are widely scattered throughout the lung substance, how does it happen that so small a quantity of the drug can come in touch with these remote infections? I have said that it can penetrate the unbroken skin, and be eliminated by the kidneys, showing its great diffusibility. It is easily understood, then, how much more rapidly and thoroughly it can be taken up through a hyperemic mucous membrane, and reach, both by continuity of tissues and by endosmosis, to the uttermost portions of the lung tissue.

With reference to the use of pure cod liver oil, there was no other purpose intended than that of a bland, unirritating men-

strum, for the dilution of the ichthyol; and cod liver oil was chosen because it can be obtained pure. An oil was preferred to a watery vehicle because of its consistency and adhesiveness; making it possible, by being disseminated along the walls of the bronchi, for respiration to go on unimpeded, while it is being absorbed.

In discussing this matter, a number of physicians have asked me how it was possible to inject a drachm of anything into the trachea without strangling the patient. It is only in the larynx that this difficulty exists; because of its more intricate nerve supply, and its intolerance to the presence of any foreign body. With the glottis safely passed, this quantity is dumped into a cartilaginous tube that, especially in this disease, is accumtomed to the presence of large quantities of mucus; and if care is taken that none is regurgitated into the larynx, there is never the slightest trouble.

I might say here, by way of parenthesis, that all pulmonary conditions, where there is an irritation of the mucous membrane to be soothed, or an arterial congestion to be overcome, are equally benefited by this procedure. Pneumonia, bronchitis, asthma, and such conditions, can be promptly relieved by the use of this procedure: various substances being injected as the case may require. I have found in my experiences that one or two applications of the ichthyol oil will promptly relieve an attack of acute bronchial irritation in the larger tubes.

Now, gentlemen, I have given you the theory, and the results of its practical application; and I sincerely trust that all of you, who may find an opportunity, will give these injections a trial. The method is extremely simple, and the instrument very inexpensive. The only requirements are a little self-confidence, and a knowledge of the anatomy of the larynx. I have put myself to the trouble and expense of discussing this matter in various cities lately, purely because I am convinced of its great usefulness, and because of my desire to do all in my power to aid suffering humanity. I have no Sanitorium to advertise, nor appliance to sell. I am simply a private in the ranks, fighting in the cause of humanity against this dreaded monster, consumption, which hiding itself in the unreachable portions of the body, saps its strength, and destroys its vital functions, like a horrible vampire sucking the blood of a sleeping victim. Let us throw away our long distance firearms, fix bayonets to our guns, and fight this thing at close quarters. Let us resort to every subterfuge, and utilize every available weapon, to remove the stigma of defeat which has hung over us in our warfare with this disease.

Condition at Beginning of Treatment.						Condition at Close of Treatment.				
Case.	Duration of Disease.	Afternoon Temp.	Expecto.	Weight.	Treatment begun.	Treatment continued.	Temp.	Cough.	Gained weight.	Final result.
1-37 years..... Negro male	19 months	101⅘	Profuse	127	June 11th.	9 weeks....	Normal.....	Absent.....	34 pounds	Cured.
2-28 years..... White female	30 months	101	Profuse	87	June 20th	12 weeks....	Normal.....	Absent.....	27 pounds	Cured.
3-32 years..... Negro male	6 months	99⅘	Scanty.	134	July 3d	14 weeks....	Normal.....	Absent.....	18 pounds	Cured.
4-19 years..... Negro male	14 months	102	Profuse	122	July 12th	15 weeks....	Normal.....	Absent.....	15 pounds	Cured.
5-16 years..... White female.....	36 months	100⅘	Profuse	90	July 14th	18 weeks....	Normal.....	Absent.....	29 pounds	Cured.
6-17 years..... White male	12 months	99⅘	Scanty.	129	July 19th	15 weeks....	Normal.....	Absent.....	16 pounds	Cured.
7-34 years..... Negro male	24 months	102⅕	Profuse	116	Aug. 15th	18 weeks....	99	Absent.....	14 pounds	Great improvement.
8-40 years..... Negro male	18 months	101⅘	Profuse	110	Oct. 2d	16 weeks....	100⅘.....	Much imp't.....	9 pounds	Unsatisfactory.
9-28 years..... White female	12 months	99⅘	Free....	100	Nov. 6th	12 weeks....	Normal.....	Absent.....	19 pounds	Cured.
10-30 years..... White male	8 months	99⅘	Free....	127	Nov. 11th	13 weeks....	Normal.....	Absent.....	21 pounds	Cured.
11-36 years..... White male	12 months	100⅘	Profuse	130	Nov. 11th	11 weeks....	Normal.....	Absent.....	20 pounds	Cured.
12-21 years..... White male	24 months	102⅘	Profuse	112	Nov. 11th	16 weeks....	101⅘.....	Excessive.....	0 pounds	Failure.
13-24 years..... White male	8 months	99⅘	Free....	120	Nov. 24th	12 weeks....	Normal.....	Absent.....	38 pounds	Cured.
14-29 years..... White female	12 months	100⅘	Free....	98	Nov. 24th	14 weeks....	Normal.....	Slight.....	14 pounds	Improved.
15-42 years..... Negro male	18 months	101	Profuse	137	Nov. 24th	18 weeks....	Normal.....	Slight.....	19 pounds	Improved.
16-23 years..... White female	9 months	99⅘	Scanty.	96	Nov. 29th	12 weeks....	Normal.....	Absent.....	20 pounds	Cured.
17-34 years..... White male	12 months	100⅕	Scanty.	143	Dec. 2d	14 weeks....	Normal.....	Absent.....	13 pounds	Cured.
18-37 years..... White male	12 months	101	Free....	131	Dec. 2d	16 weeks....	Normal.....	Absent.....	33 pounds	Cured.
19-20 years..... White male	18 months	101⅘	Profuse	125	Dec. 2d	16 weeks....	Normal.....	Absent.....	24 pounds	Cured.
20-49 years..... White male	18 months	103	Profuse	136	Dec. 2d	18 weeks....	Normal.....	Slight.....	20 pounds	Much improved.
21-31 years..... White male	8 months	99⅘	Scanty.	146	Dec. 12th	16 weeks....	Normal.....	Absent.....	36 pounds	Cured.

OBSERVATIONS ON THE BLOOD AND CIRCULATION IN UNCINARIASIS.

By William Groce Harrison, M. D., of Talladega.

Senior Counsellor of The Medical Association of the State of Alabama.

The admirable work of Dr. C. W. Stiles in establishing the relationship between certain forms of persistent anæmia and hook-worm has made the latter a subject of increasing interest to the southern profession. It is here, in the sandy section of our southern states, that he found this parasite most flourishing and destructive.

Uncinariasis is rare in clay soils—hence is quite infrequent in the district where I practice—but it has been my fortune to observe some six or seven cases in persons who are attending the state schools for the Deaf and Blind at Talladega. While fully conscious that we can reach no safe and scientific conclusions from such limited observations, nevertheless, I trust this study is of sufficient importance to merit your forbearance.

It might be interesting to review the entire symptomatology and clinical history of the following cases, especially with reference to the peculiar stare, general œdema, depraved appetite, etc., but for the sake of brevity, this report will be limited to observations on the heart, blood, and circulation.

Case 1. T. D.; white, male, age sixteen, Baldwin county, Alabama.

Point of maximum intensity of apex beat ¾″ below, and ½″ external to, nipple lines. Apical thrill, systolic in time.

Heart dullness distinct ½″ to ¾″ to right of right sternal border.

Soft blowing, systolic, aortic, murmur, not propagated.

Great throbbing of neck vessels. Pulse soft, very compressible, rate 122 (standing). Blood pressure 120.

Under use of calomel, santonin, and thymol, this boy voided over two hundred hook-worms, and four months later his examination reveals the following condition:

Point of maximum intesity ½" below nipple and in line with it. No apical thrill, no heart dullness to right of sternal border. Soft systolic murmur over cardiac area, but not propagated. Pulse rate 96 (standing.) Blood pressure 145.

Final observation made, April, 1904, just eleven months after institution of treatment, reveals the following changes:

P. M. I. (point of maximum intensity) ⅝" below, and ¾" inside, nipple lines. No throbbing of neck vessels, no thrill, no murmur. Pulse 81; blood pressure 153.

Case 2. C. D.; white, male, age 10, Chambers County, Alabama.

P. M. I. 1½" below, and 1" external to, nipple lines. Dullness about one finger's breadth to right of sternal border; no thrill. Soft blowing, systolic, aortic murmur, distinctly propagated to neck vessels. Marked accentuation of pulmonic second sound. Both venous and arterial pulsations in neck. Pulse rate 124; blood pressure 110.

From treatment similar to Case 1 this patient voided 87 worms, and, upon his return to school after the summer vacation (four months later) an examination shows P. M. I. ⅜" external and ½" below nipple lines. Complete disappearance of murmur; no throbbing of neck vessels; no distinct dullness to right of sternal border. Pulse rate 91; blood pressure 134.

Final observation April, 1904, eleven months after treatment; P. M. I. ⅝" below, and ½" inside, nipple lines; pulse 79; blood pressure 148. No murmur and no throbbing.

Case 3. W. J.; white, male, age 13, Henry County, Alabama.

P. M. I. 1¼" below, and 1½" external to, nipple lines, no dullness to right of sternal border; heaving impulse over entire cardiac area visible several feet distant from patient; systolic thrill over center of heart; accentuated pulmonic second sound is loud and snapping. Rough and harsh aortic murmur, propagated down and to the left; venous and arterial pulsations in the neck; pulse rate 122 (standing); blood pressure 104.

Under hock-worm therapy patient was relieved of more than a thousand worms within three days. When he returned to school four months later I then made the following note of his condition:.

P. M. I. ½" below and ⅜" outside nipple lines. Both the thrill and the heaving have disappeared; no cervical pulsations. While the murmur is no longer heard, there remains a distinct accentuation of the pulmonic second sound. Pulse rate 85; blood pressure 148.

Final observation, April, 1904, eleven months after treatment, shows P. M. I. ¾" below and ⅜" inside nipple lines; all throbbing, murmur, and pulsations remain absent. There is now no accentuation of the pulmonic second sound; pulse rate, 73; blood pressure 156.

I should like to report a few details of other cases, but in these alone was I able to study thoroughly the blood changes, and so other cases must be omitted. I will now give a table showing observations on the blood proper.

	Reds per c. cm.	Whites per c. cm.	Hæmoglobin %.	Polymorphonuclear Neutrophiles.	Small Mononuclears.	Large Mononuclears.	Eosinophiles.	Blood Pressure.	Pulse rate standing.
Case I.									
Before treatment.	1,739,462	5,760	27	59	23	12	5	120	122
4 months after...	2,643,154	6,835	55	70	20	6	3	145	86
11 months after..	3,469,808	6,462	83	68	18	9	4	153	81
Case II.									
Before treatment.	1,964,750	6,736	29	64	20	8	7	110	124
4 months after...	2,573,560	6,262	50	65	19	12	4	134	91
11 months after..	4,631,224	7,160	89	66	21	10	3	148	79
Case III.									
Before treatment.	1,465,790	7,862	21	60	27	9	5	104	127
4 months after...	2,977,232	6,500	70	62	23	12	3	148	85
11 months after..	4,628,134	6,230	79	71	18	8	3	156	73

The pulse rate was always counted while the patient was standing. In estimation of hæmoglobin the Dare instrument was used. There was slight poikilocytosis in Cases 1 and 2.

but none in 3. No megaloblasts seen. From a careful study of these cases, and a few others observed with reference to these symptoms, one seems justified in the following conclusions:

1. Uncinariasis, through its extreme anæmia, exerts a most marked influence on the heart, causing apparent increase in size (most likely dilatation) heaving pulsations, relative insufficiency, thrill, and murmurs.

2. While these conditions may be accompanied by an accentuation of the pulmonic second sound, nevertheless they rapidly disappear when the cause of anæmia is removed, and by slow degrees the accentuation is likewise obliterated.

3. The murmurs are mostly aortic, soft, and blowing, but are both systolic and diastolic—all of which suggests they may be either hæmic (due to anæmia) or caused by relative insufficiency—the result of dilatation.

4. The fact that the area of heart dullness seems to diminish perceptibly after the relief of the anæmia, would suggest a dilatation, and this seems forcibly strengthened by observations on the blood pressure which went up from 120 to 153 in the first case; from 110 to 140 in the second, and from 104 to 156 in the third.

5. The blood cell changes are not especially significant other than indicating a marked anæmia. Many more and oft repeated observations would be necessary to establish any definite relationship between this anæmia and the number of eosinophiles.

6. No megaloblasts found in these cases, as has been the rule in previous work.

7. The rise of blood pressure beginning immediately upon removal of the cause is a safe index to the returning strength of the heart.

8. The rapid rise in the percentage of hæmoglobin is a safe index of improvement.

9. Even in the most desperate cases we may confidently promise rapid restoration immediately after the removal of the worms.

The medical profession cannot be too grateful for the pioneer work of Dr. Stiles. Heretofore regarded as hopeless and incurable because its etiology was unknown and its pathology unstudied, Uncinariasis, through his own individual effort, has become one of the most easily recognized and readily curable affections. While we justly laud our own profession, let us not forget to render proper praise to our brother workers in the

collateral sciences who, like Dr. Stiles, are blazing new paths for themselves and for us. No medical achievement in recent years is attended with more brilliant results than the recognition and treatment of Unciniriasis. Heretofore regarded as malaria, heart disease, disordered digestion, and various other names, which, like charity, covered a multitude of ignorance and sin, it is now a distinct medical entity, simple in its diagnosis and simpler in its relief.

ABDOMINAL HYSTERECTOMY FOR FIBROID TUMORS OF THE UTERUS.

By George H. Noble, M. D., of Atlanta, Ga.

Abdominal hysterectomy for fibroid tumors of the uterus is essentially an American operation. I offer this assertion on the grounds that the first deliberate operation of this kind was done in America, and that the contributions of such men as Köeberlé, Pean, Hegar, Olshausen, Martin, and others, in Europe, were temporary efforts directed mainly to hemostasis. And further, that perfection of the technique, placing this operation on a high plane of success, was accomplished on this side of the Atlantic.

The first operation was done by Kimball, of Lowell, Mass., who followed a technique very similar to that which is practiced today. But, it was defective in hemostasis and contributed to infection, consequently, many devices were employed later for the prevention of hemorrhage. Prominent among men working to correct this fault were the distinguished surgeons above mentioned. A striking advance was made by the adoption of the elastic ligature and Köeberlé's serre-nœud around the neck of the uterus, and extra-peritoneal fixation of the stump, which perfectly controlled the blood supply of the uterus and transferred the liability of infection from an intra-peritoneal to an extra-peritoneal point. Though the improvement was considerable, mortality, when compared to the results now obtained, was high.

Martin, in 1878, first used the elastic ligature which was later substituted by the rubber tube. Though it prevented hemor-

rhage it was followed by infection, sloughing of the stump, hernia, and slow recovery, which were serious objections. Schröeder, endeavoring to overcome these drawbacks, stitched the stump together, practicing what is known as intra-peritoneal pedicle. Disappointment followed his technique on account of a certain amount of hemorrhage the sutures failed to control.

Freund attempted to effect drainage from the intra-peritoneal stump by surrounding it with a rubber canal made of a cundum, one end of which was brought out of the abdominal wound. He hoped by isolating the stump in this way to shut out infection from the peritoneal cavity, but it never became popular.

Olshausen and Zweifel constricted the pedicle by the elastic ligature and dropped same within the pelvis, but, as it was attended by dire results, the plan was soon discarded.

Wolfer and Hacker sutured the stump to inner side of the abdominal incision in 1884 with considerable success. With this method Fritsch had nineteen successful cases. Olshausen and Schröeder had thirty-nine cases, with twelve deaths.

Pozzi was also an advocate of this, the so-called mixed treatment of the stump.

Martin then practiced excision of the stump, adding much to the technique of abdominal hysterectomy for fibroids.

Up to the time of this method the mortality was very high, and it remained for an American surgeon to recognize that simple ligation of the uterine arteries is the most effective means of hæmostasis. This step is the foundation upon which technique has been constructed, and it is deserving of more credit than any other feature of the late operations.

The blood supply of the uterus having been known for such a long time, it is astonishing that Baër, or some one else, did not practice ligation of the uterine arteries at an earlier date.

In looking back over the history of abdominal hysterectomy, it will be observed that there are three distinct steps in the progress of the operation. First, that of Kimball's operation in which he ligated very much as we do, but he left long ends to his ligatures for the purpose of removing them after separation.

The second step covers a number of operations in which the elastic ligature and serre-nœud were the chief features.

The third step is that of intra-peritoneal stump, which has now been developed to a remarkable degree of perfection.

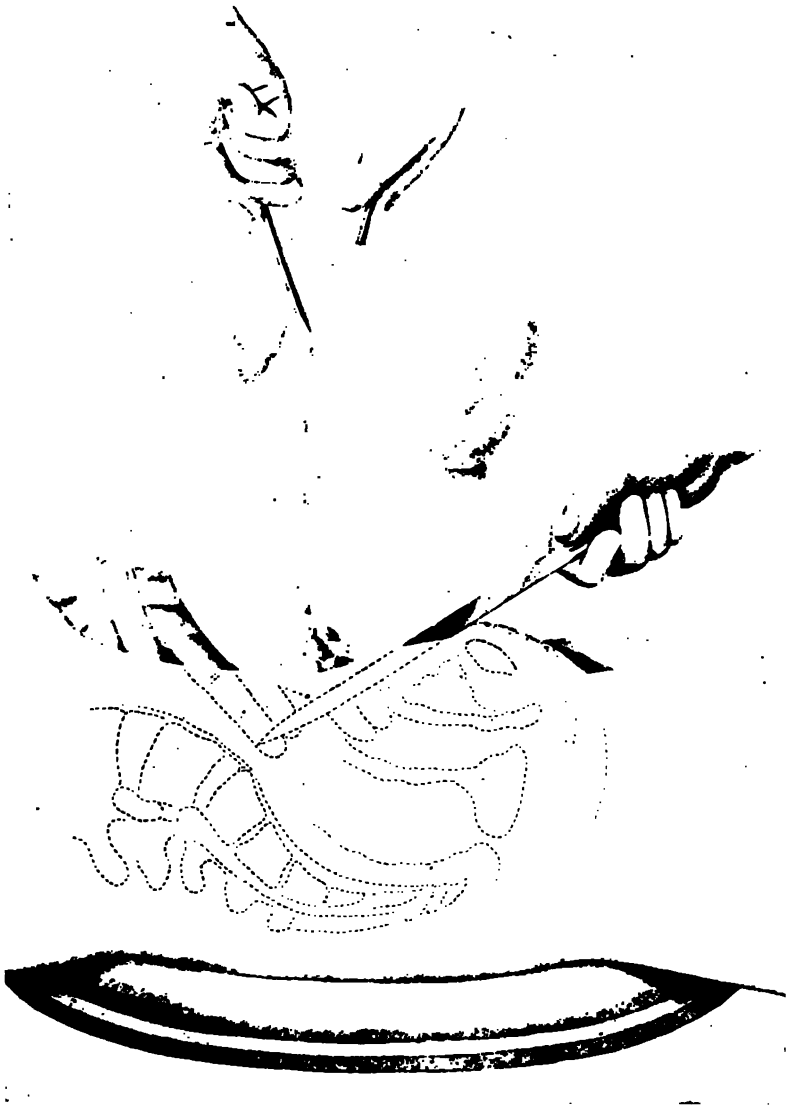


Fig. 1. First step in bisection of tumor.

I take it but as an illustration of the fact that "a prophet is not without honor save in his own country; and though I have no wish to attempt to pose as a prophet, still, I am assured that there is much good in this method of treating consumption, and that it deserves a trial by every member of this Association, who has such cases to treat, on account of its simplicity, if for no other reason.

We are too much attracted, anyway, by the charm of fine-spun German theories, evolved out of the brain of some impractical chemist; and we satisfy ourselves, even though our patient die, with the questionable consolation that we have at least handled the case in a scientific manner. The regular rise and fall of these chimerae, which we so eagerly grasp even when in the stage of raw empiricism, should teach us that, in all probability, many a tapering monument marks the last resting place of some of the victims of these German illusions. Let us rather work our way with the simpler instruments, with which we are familiar, and not attempt to daub with untempered mortar.

Practically, the good in this treatment has been clearly demonstrated by its results in these cases reported; and results are the "*sine qua non*" of the adoption of any new treatment.

Theoretically, we have but to bear in mind some of the medical properties which I have mentioned as being characteristic of ichthyol, to be convinced of its usefulness when locally applied to an ulcerated surface. I have said that it is a powerful vaso-motor constrictor when applied to mucous surfaces, thereby relieving hyperemia. A hyperemic condition of the mucous lining of the air passages is one of the concomitants of all coughs; hence the promptness with which this distressing symptom was relieved in these cases. I have said that it was a decided anti-septic, being quickly fatal to all pathogenic organisms. Thus is the rapid disappearance of the tubercle bacilli from the specimens examined accounted for. • But, as these tubercle bacilli are widely scattered throughout the lung substance, how does it happen that so small a quantity of the drug can come in touch with these remote infections? I have said that it can penetrate the unbroken skin, and be eliminated by the kidneys, showing its great diffusibility. It is easily understood, then, how much more rapidly and thoroughly it can be taken up through a hyperemic mucous membrane, and reach, both by continuity of tissues and by endosmosis, to the uttermost portions of the lung tissue.

With reference to the use of pure cod liver oil, there was no other purpose intended than that of a bland, unirritating men-

strum, for the dilution of the ichthyol; and cod liver oil was chosen because it can be obtained pure. An oil was preferred to a watery vehicle because of its consistency and adhesiveness; making it possible, by being disseminated along the walls of the bronchi, for respiration to go on unimpeded, while it is being absorbed.

In discussing this matter, a number of physicians have asked me how it was possible to inject a drachm of anything into the trachea without strangling the patient. It is only in the larynx that this difficulty exists; because of its more intricate nerve supply, and its intolerance to the presence of any foreign body. With the glottis safely passed, this quantity is dumped into a cartilaginous tube that, especially in this disease, is accumtomed to the presence of large quantities of mucus; and if care is taken that none is regurgitated into the larynx, there is never the slightest trouble.

I might say here, by way of parenthesis, that all pulmonary conditions, where there is an irritation of the mucous membrane to be soothed, or an arterial congestion to be overcome, are equally benefited by this procedure. Pneumonia, bronchitis, asthma, and such conditions, can be promptly relieved by the use of this procedure; various substances being injected as the case may require. I have found in my experiences that one or two applications of the ichthyol oil will promptly relieve an attack of acute bronchial irritation in the larger tubes.

Now, gentlemen, I have given you the theory, and the results of its practical application; and I sincerely trust that all of you, who may find an opportunity, will give these injections a trial. The method is extremely simple, and the instrument very inexpensive. The only requirements are a little self-confidence, and a knowledge of the anatomy of the larynx. I have put myself to the trouble and expense of discussing this matter in various cities lately, purely because I am convinced of its great usefulness, and because of my desire to do all in my power to aid suffering humanity. I have no Sanitorium to advertise, nor appliance to sell. I am simply a private in the ranks, fighting in the cause of humanity against this dreaded monster, consumption, which hiding itself in the unreachable portions of the body, saps its strength, and destroys its vital functions, like a horrible vampire sucking the blood of a sleeping victim. Let us throw away our long distance firearms, fix bayonets to our guns, and fight this thing at close quarters. Let us resort to every subterfuge, and utilize every available weapon, to remove the stigma of defeat which has hung over us in our warfare with this disease.

Condition at Beginning of Treatment.						Condition at Close of Treatment.				
Case.	Duration of Disease.	Afternoon Temp.	Expecto.	Weight.	Treatment begun.	Treatment continued.	Temp.	Cough.	Gained weight.	Final result.
1-37 years..... Negro male	19 months	101⅘	Profuse	127	June 11th.	9 weeks....	Normal.....	Absent.....	34 pounds	Cured.
2-28 years..... White female	30 months	101	Profuse	87	June 20th	12 weeks....	Normal.....	Absent.....	27 pounds	Cured.
3-32 years..... Negro male	6 months	99⅘	Scanty.	134	July 3d	14 weeks....	Normal.....	Absent.....	18 pounds	Cured.
4-19 years..... Negro male	14 months	102	Profuse	122	July 12th	15 weeks....	Normal.....	Absent.....	15 pounds	Cured.
5-46 years..... White female.....	36 months	100⅘	Profuse	90	July 14th	18 weeks....	Normal.....	Absent.....	29 pounds	Cured.
6-17 years..... White male	12 months	99⅘	Scanty.	129	July 19th	15 weeks....	Normal.....	Absent.....	16 pounds	Cured.
7-34 years..... Negro male	24 months	102½	Profuse	116	Aug. 15th	18 weeks....	99	Absent.....	14 pounds	Great improvement.
8-40 years..... Negro male	18 months	101⅘	Profuse	110	Oct. 2d	16 weeks....	100⅘.....	Much imp't.....	9 pounds	Unsatisfactory.
9-28 years..... White female	12 months	99⅘	Free....	100	Nov. 6th	12 weeks....	Normal.....	Absent.....	19 pounds	Cured.
10-30 years..... White male	8 months	99⅘	Free....	127	Nov. 11th	13 weeks....	Normal.....	Absent.....	21 pounds	Cured.
11-36 years..... White male	12 months	100⅘	Profuse	130	Nov. 11th	11 weeks....	Normal.....	Absent.....	20 pounds	Cured.
12-21 years..... White male	24 months	102⅘	Profuse	112	Nov. 11th	16 weeks....	101⅘.....	Excessive.....	0 pounds	Failure.
13-24 years..... White male	8 months	99⅘	Free....	120	Nov. 24th	12 weeks....	Normal.....	Absent.....	38 pounds	Cured.
14-29 years..... White female	12 months	100⅘	Free....	98	Nov. 24th	14 weeks....	Normal.....	Slight.....	14 pounds	Improved.
15-42 years..... Negro male	18 months	101	Profuse	137	Nov. 24th	18 weeks....	Normal.....	Slight.....	19 pounds	Improved.
16-23 years..... White female	9 months	99⅘	Scanty.	96	Nov. 29th	12 weeks....	Normal.....	Absent.....	20 pounds	Cured.
17-34 years..... White male	12 months	100½	Scanty.	143	Dec. 2d	14 weeks....	Normal.....	Absent.....	13 pounds	Cured.
18-37 years..... White male	12 months	101	Free....	131	Dec. 2d	16 weeks....	Normal.....	Absent.....	33 pounds	Cured.
19-20 years..... White male	18 months	101⅘	Profuse	125	Dec. 2d	16 weeks....	Normal.....	Absent.....	24 pounds	Cured.
20-49 years..... White male	18 months	103	Profuse	136	Dec. 2d	18 weeks....	Normal.....	Slight.....	20 pounds	Much improved.
21-31 years..... White male	8 months	99⅘	Scanty.	146	Dec. 12th	16 weeks....	Normal.....	Absent.....	36 pounds	Cured.

OBSERVATIONS ON THE BLOOD AND CIRCULATION IN UNCINARIASIS.

By William Groce Harrison, M. D., of Talladega.

Senior Counsellor of The Medical Association of the State of Alabama.

The admirable work of Dr. C. W. Stiles in establishing the relationship between certain forms of persistent anæmia and hook-worm has made the latter a subject of increasing interest to the southern profession. It is here, in the sandy section of our southern states, that he found this parasite most flourishing and destructive.

Uncinariasis is rare in clay soils—hence is quite infrequent in the district where I practice—but it has been my fortune to observe some six or seven cases in persons who are attending the state schools for the Deaf and Blind at Talladega. While fully conscious that we can reach no safe and scientific conclusions from such limited observations, nevertheless, I trust this study is of sufficient importance to merit your forbearance.

It might be interesting to review the entire symptomatology and clinical history of the following cases, especially with reference to the peculiar stare, general œdema, depraved appetite, etc., but for the sake of brevity, this report will be limited to observations on the heart, blood, and circulation.

Case 1. T. D.; white, male, age sixteen, Baldwin county, Alabama.

Point of maximum intensity of apex beat ¾″ below, and ½″ external to, nipple lines. Apical thrill, systolic in time.

Heart dullness distinct ½″ to ¾″ to right of right sternal border.

Soft blowing, systolic, aortic, murmur, not propagated.

Great throbbing of neck vessels. Pulse soft, very compressible, rate 122 (standing). Blood pressure 120.

Under use of calomel, santonin, and thymol, this boy voided over two hundred hook-worms, and four months later his examination reveals the following condition:

Point of maximum intesity ½″ below nipple and in line with it. No apical thrill, no heart dullness to right of sternal border. Soft systolic murmur over cardiac area, but not propagated. Pulse rate 96 (standing.) Blood pressure 145.

Final observation made, April, 1904, just eleven months after institution of treatment, reveals the following changes:

P. M. I. (point of maximum intensity) ⅝″ below, and ¾″ inside, nipple lines. No throbbing of neck vessels, no thrill, no murmur. Pulse 81; blood pressure 153.

Case 2. C. D.; white, male, age 10, Chambers County, Alabama.

P. M. I. 1½″ below, and 1″ external to, nipple lines. Dullness about one finger's breadth to right of sternal border; no thrill. Soft blowing, systolic, aortic murmur, distinctly propagated to neck vessels. Marked accentuation of pulmonic second sound. Both venous and arterial pulsations in neck. Pulse rate 124; blood pressure 110.

From treatment similar to Case 1 this patient voided 87 worms, and, upon his return to school after the summer vacation (four months later) an examination shows P. M. I. ⅜″ external and ½″ below nipple lines. Complete disappearance of murmur; no throbbing of neck vessels; no distinct dullness to right of sternal border. Pulse rate 91; blood pressure 134.

Final observation April, 1904, eleven months after treatment; P. M. I. ⅝″ below, and ½″ inside, nipple lines; pulse 79; blood pressure 148. No murmur and no throbbing.

Case 3. W. J.; white, male, age 13, Henry County, Alabama.

P. M. I. 1¼″ below, and 1½″ external to, nipple lines, no dullness to right of sternal border; heaving impulse over entire cardiac area visible several feet distant from patient; systolic thrill over center of heart; accentuated pulmonic second sound is loud and snapping. Rough and harsh aortic murmur, propagated down and to the left; venous and arterial pulsations in the neck; pulse rate 122 (standing); blood pressure 104.

Under hook-worm therapy patient was relieved of more than a thousand worms within three days. When he returned to school four months later I then made the following note of his condition:.

P. M. I. ½" below and ⅜" outside nipple lines. Both the thrill and the heaving have disappeared; no cervical pulsations. While the murmur is no longer heard, there remains a distinct accentuation of the pulmonic second sound. Pulse rate 85; blood pressure 148.

Final observation, April, 1904, eleven months after treatment, shows P. M. I. ¾" below and ⅜" inside nipple lines; all throbbing, murmur, and pulsations remain absent. There is now no accentuation of the pulmonic second sound; pulse rate, 73; blood pressure 156.

I should like to report a few details of other cases, but in these alone was I able to study thoroughly the blood changes, and so other cases must be omitted. I will now give a table showing observations on the blood proper.

	Reds per c. cm.	Whites per c. cm.	Hæmoglobin %.	Polymorphonuclear Neutrophiles.	Small Mononuclears.	Large Mononuclears.	Eosinophiles.	Blood Pressure.	Pulse rate standing.
Case I.									
Before treatment.	1,739,462	5,760	27	59	23	12	5	120	122
4 months after...	2,643,154	6,835	55	70	20	6	3	145	86
11 months after..	3,469,808	6,462	83	68	18	9	4	153	81
Case II.									
Before treatment.	1,964,750	6,736	29	64	20	8	7	110	124
4 months after...	2,573,560	6,262	50	65	19	12	4	134	91
11 months after..	4,631,224	7,160	89	66	21	10	3	148	79
Case III.									
Before treatment.	1,465,790	7,862	21	60	27	9	5	104	127
4 months after...	2,977,232	6,500	70	62	23	12	3	148	85
11 months after..	4,628,134	6,230	79	71	18	8	3	156	73

The pulse rate was always counted while the patient was standing. In estimation of hæmoglobin the Dare instrument was used. There was slight poikilocytosis in Cases 1 and 2.

In the gradual evolution of methods the second and third steps were more or less mixed in the transition from one to the other, that is, the elastic ligature with fixation of stump to abdominal incision, dropping of the stump with elastic ligatures applied and suturing of stump, conjoined with intra-abdominal but extra-peritoneal fixation, were practiced.

At the time elastic ligatures were used an innovation was made by Harbin that very nearly approached the late operation. He introduced bisection of the uterus, splitting the organ down close to the rubber ligature for the purpose of inspecting the number and relation of tumors in the parenchymatous structure of the uterus. If they were few in number or could be enucleated without tediousness, the operation was completed as a miomectomy, but if it was impracticable to remove all tumors, especially if they were small and numerous, he cut each half of the uterus off just above the elastic ligature and finished as in hysterectomy.

If he had gone a step further by dropping the elastic ligature and ligating the uterine arteries as Baer did later, he would have almost reached the present state of technique in one bound.

In the third step, the difference in the technique consists in different ways of accomplishing the same thing. All ligate or hemostas the ovarian and uterine arteries, some before removing the uterus, others after that organ has been extirpated.

The common method employed is that of ligating the broad ligament on either side, followed by amputation of the uterus through the neck. This is often a tedious and difficult procedure, and on that account it lead up to the adoption of the Kelly continued incision, going down the broad ligament on one side, cutting across the cervix and then severing the broad ligament on the opposite side from below upward.

In intra-ligamentous fibroids this operation is liable to injure the ureter on one or both sides. To overcome this danger Prior adopted Martin's bisection, but dispensed with the elastic ligature and relied upon compression of the ovarian vessels and traction upon the uterus to prevent hemorrhage from the uterine arteries. After bisecting the uterus he penetrated the capsule of the intra-ligamentous tumor from the uterine cavity and enucleated the fibroid, then amputated each half of the uterus after Martin's method and ligated the uterine and ovarian vessels. By this means manipulations are confined to capsules of the tumor and the danger of injuring important vessels is avoided,

and the ureter is permitted to return to its normal position.

Large fibroid tumors of the uterus, filling the pelvic cavity, and extending above the brim to either side of the abdomen, not infrequently subject the patient to prolonged operations and unnecessary loss of blood. It is to the technique of the operation in this class of cases that I wish to call attention.

The operation consists in a combination of principles that have been practiced, and, in some modifications of the same, making an operation that is worthy of attention.

The removal by hysterectomy of large tumors when the broad ligament is first ligated from above downward, is a procedure often beset by many mechanical difficulties. The practical inaccessibility of these ligaments, under the conditions mentioned, and extreme tension upon which the tumor puts them, often subject the patient to such a prolonged operation and so tax the surgeon's ingenuity that any plan promising more working space should meet with careful consideration. I take pleasure, therefore, in reporting a procedure which greatly expedites the removal of such fibroids and gives the operator at all times excellent control over the blood supply of the parts.

The operation has, as its underlying principle, the bisection of tumor and uterus, together with subsequent partial enucleation of each half of the tumor separately.

When the abdomen has been opened and the tumor delivered through the incision, the intestine retainer is introduced so as to clear the pelvic field for the manipulation to follow. The broad ligaments and cornua of the uterus are caught with morcellation forceps, as described by Kelly in bisection of the uterus for inflammatory diseases. The ovarian arteries are thus compressed, and traction on the tumor upward checks the flow through the uterine arteries. The large veins on the surface of the fibroid and uterus (usually anterior), except those obstructed by the forceps, at once become empty.

The bladder having been pushed off, the tumor is rapidly bisected in the median line. For this purpose I use a large hip-joint amputating knife, shaped like a curved bistoury which can be easily passed through the cervix or corpus uteri, and the tumor cut open from below upward. The section may be made from above downward with a large scalpel; rapid strokes quickly divide the tumor into two equal parts, the incision continuing downward in the median line of the uterus to the cervix. The bleeding is insignificant, amounting in fact to very little more than the discharge of residual blood.

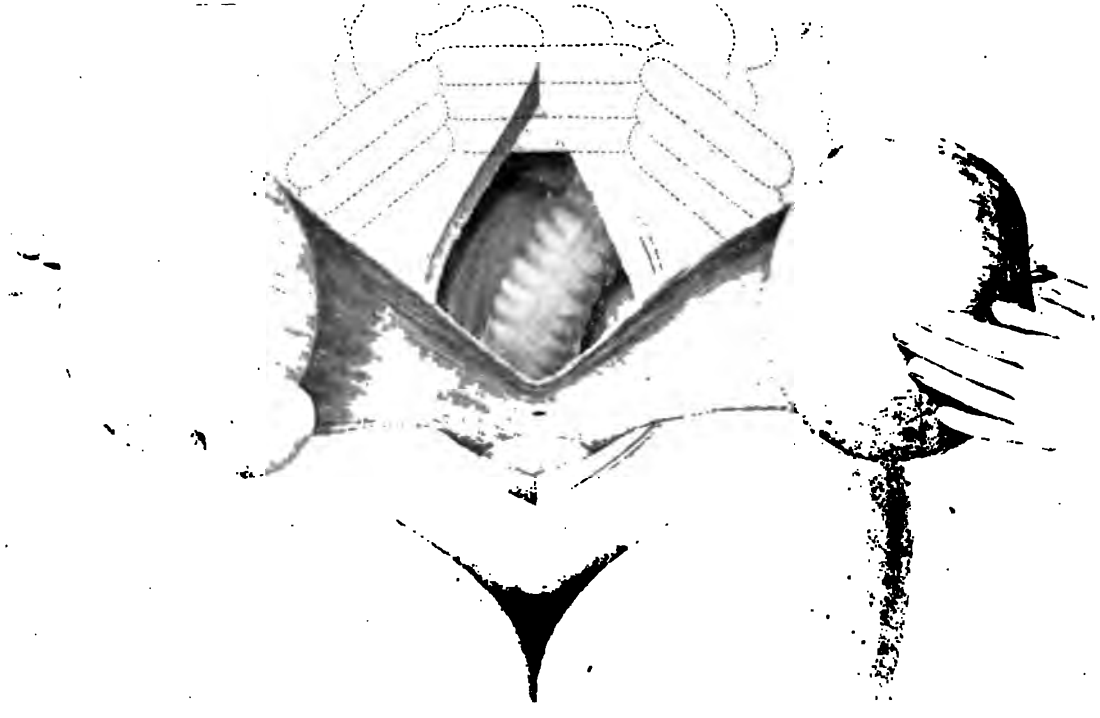


Fig. III. Halves of tumor enucleated and rolled out.

Now, with the tumor cut in halves, the operator and assistant, working at the same time on opposite sides, partially enucleate from below upward each section of the tumor from its capsule or bed in the uterus. The halves are rotated in the process of enucleation, on their outer (upper) cut margins, the inner (lower) margin describing a semi-circle in transit. At this stage of the operation, the halves of the tumor are lying on opposite sides of the patient's body, the flat cut surface looking downward and the convex enucleated surface looking upward. Both sections are connected by long pedicles to the uterine stump. It being understood that the original incision which bisected the uterus has been carried as far down as the cervical region, lateral cuts, after Martin's method, sever the uterus proper from the stump and expose the uterine arteries, which should be tied. The remaining portion of the pedicle now consists of parts of the broad ligaments only, and having been compressed with the angiotribe are tied with catgut and the mass on either side cut away. In place of ligatures Downe's instrument may be used to secure the blood vessels and seal the folds of the broad ligament together.

The edges of the outer muscular layers of the cervix are then stitched over the stump with a continuous suture of catgut. The adjacent raw surfaces are covered over by stitching together the peritoneum of the broad ligament, bladder, and Douglas' pouch.

If, however, in the place of supra-vaginal, pan-hysterectomy is to be perfomed, the bisecting incision is continued in the median line through the cervix into the vagina, completely severing the uterus and tumor into two distinct parts. After the incision made by the knife reaches the cervix it is best continued with a pair of sharp-pointed scissors. Immediately following the partial enucleation above described, one blade of the scissors is passed through the cervical canal and the point of the other blade pierces the vaginal wall behind the cervix; the posterior wall of the cervix is then split open, the incision extending a short distance down the vagina. The anterior wall of the cervix is opened in the same way, with the finger in the vagina as a guide; one prong of the scissors pierces the vagina between the cervix and bladder, the other enters the vagina through the incision last made.

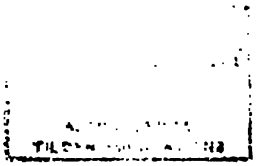
Excision is completed by grasping the vaginal portion of the cervix on one side with a small pair of morcellation forceps,

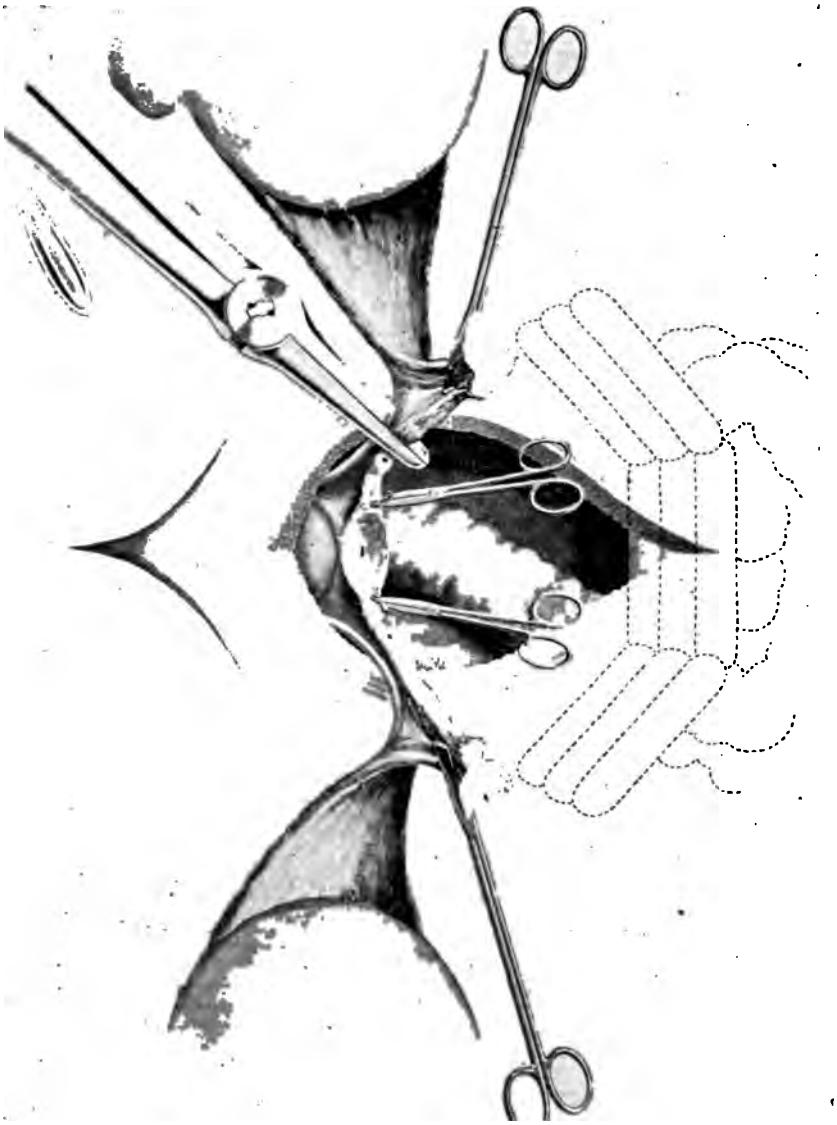
making firm traction and cutting from below upward, first severing the cervix from the vagina, then cutting close to the uterus, avoiding the ureters and uterine arteries. When the lower half of the broad ligament has been severed, one side of the bisected uterus may be turned out of the abdomen. Similar treatment of the opposite side clears away all obstructions to manipulations in the abdomen and pelvis, greatly facilitating ligation of the uterine arteries held in the grasp of compression forceps. If the pedicles are thick they should be clamped external to the ovaries with the angiotribe and subsequently ligated in the track of the instrument. It will be observed that each half of the uterus is removed very much after the manner in which Doyen removes that organ in one piece, that is, delivering cervix first. Bleeding from the vaginal wall may demand a few ligatures or stitches. When this has been looked after, the peritoneum is stitched over the raw surfaces in the bottom of the pelvis and the remainder of the operation is finished in the usual manner.

The advantages of combined bisection of the tumor and uterus, with partial enucleation, are: Saving in time, decreased loss of blood, increased working space, easy manipulation, and safety against injury to the ureters and uterine arteries. The advantage of time-saving is apparent to all, since prolonged operations contribute largely to shock. The hemorrhage consists of only a small amount of residual blood that remains in the veins and sinuses. It drops down in the bottom of the pelvis and can be removed by a few strokes of the sponge. No blood escapes during the process of enucleation, as the parts separated are either within the capsule of the tumor or within the external layer of the muscular fibres of the body of the uterus. Oozing of blood is confined almost entirely to this layer of muscles, and can be controlled absolutely by traction on the forceps. As enucleation of the bisected tumor rapidly removes the bulky mass from the abdominal cavity, increasing the working space and rendering subsequent manipulation easy—an advantage that any one who sees must necessarily appreciate—for, an unobstructed field of operation requires less skill and manipulation.

The feature of great importance is the fact that the ureters are not liable to injury even though they may be very much displaced by growing tumors. In the operation above described the manipulations are confined to the space between these two ducts. The incision is made in the median line; enucleation is

Fig. IV. Uterine arteries clamped, angiotribe on right broad ligament.





done from the same point, and when the ureter is passed over the upper part of the tumor and enucleation done, as above described, the tumor is rolled out from beneath it, permitting the ureter to drop to its normal position. In the old operation of ligating the broad ligament from the pelvic brim to the floor of the pelvis there is great danger of either tying the displaced ureter or severing it when cutting across the pedical.

Since Baër's modification has been accepted, the mortality, in the hands of best operators, has been estimated at five to seven per cent. And now I feel sure that this will again be reduced by the method presented to you. My mortality is only two per cent, and in the last thirty* hysterectomies (done by this plan) there were no deaths.

In one case of multiple intra-ligamentous tumor, done by simple bisection, without enucleation, I had hemorrhage from slipping of ligature. This accident was in no way due to the principle of the operation, as the pedicle was long and the ligature was placed upon the upper border of the broad ligament, it being stiff chromicized catgut that would not tie closely. The case was badly complicated with adhesions in the pelvis and abdomen, covering the uterus and tumor with a mass of agglutinated viscera, through which I had to dig more than two inches to reach the fundus uteri. The operation consumed nearly an hour, most of the time being spent in separating the adhesions.

In this case a gauze drainage was inserted in the vagina to care for oozing. This also was the only exception to the rule of complete closure. I find that operations formerly requiring one or two hours by the ordinary method can be done in twenty-five to forty minutes, including closure of the abdomen in layer sutures.

DISCUSSION.

Dr. Watkins: "I was not here at the beginning of Dr. Noble's paper, but I heard the most of it, and as the members seem slow in taking up the discussion, I will say a few words. I do not think we ought to let this valuable paper pass without some discussion. I want to say that I have not had experience in the method of operating upon the uterus, as Dr. Noble gives it here, although I am familiar with the operation as taught by Dr. Noble, and have seen something of it. The operation has

*Since writing this paper, I have had six additional cases, making thirty-six consecutively successful cases since the last death.

unquestionably some points which are good. It has some points which I am inclined to criticise, and which, I think, are open to criticism. In the first place, what advantage there is to be gained in bisecting the uterus, I do not exactly see. Dr. Noble will pardon me for speaking, not from experience, but from reflection. The next point is that many writers have regarded the opening of the uterus as a prolific source of infection. It is undesirable to open the uterus within the abdominal cavity. Although the doctor did not refer to this, I presume he looked after this point with the greatest care. There is one thing in tumor work which I think has occurred to every surgeon, namely, that no two tumors are exactly alike, and it is impossible to point out any fixed rules of treatment. Preservation of the uterus is of the greatest importance, and prevention of hemorrhage. I do not wish to detract from the value of cutting the tumor, but you will find many tumors which you will be unable to bisect."

Dr. Inge: "I fail to see wherein this plan offers any advantages over the ordinary means of removing the uterus *in toto*. I have never seen a case where you were not able, with clamps and ligatures, to avoid the hemorrhage. If the tumor is very large, we manipulate it through the abdominal walls, and as soon as it is on the outside, we have plenty of room to work. There is a risk in taking the uterus out in parts; some of the contents or secretions of the uterus escape into the abdominal cavity; and there is always an element of risk in infecting the abdominal cavity. I have never yet seen a tumor, a solid tumor of the uterus, which I have not been able to take out *in toto*, and I think it is very much safer than trying to split the uterus *in situ*, thereby having two masses to deal with, instead of one. While I enjoyed listening to the paper, I cannot see that it has advantages sufficient to make me believe that this plan of procedure would be preferable to removing the tumor *in toto*."

Dr. Noble, in closing the discussion, thanked the members for the interest which they had manifested in the paper, and also expressed his appreciation of the privilege he had enjoyed of presenting a paper before the Association.

PSYCHIC IMPRESSIONS AS A THERAPEUTIC AGENT.

By Stephen C. Henderson, M. D., of Brewton.

Junior Counsellor of The Medical Association of the State of Alabama.

Occult and psychic phenomena have in recent years occupied a prominent place in the minds of the people on account of the wide dissemination of literature pertaining to this and kindred subjects. Unfortunately, this literature is of such a character as to produce in the public mind not only erroneous, but harmful impressions, and to create a most profitable field for the quack, charlatan, and pseudo-scientist. This renders the subject one of more than passing interest to the physician, and makes it incumbent on the medical profession to give it that study and investigation which its importance deserves.

Unfortunately, the idea of employing the mysterious forces of mind over matter in the treatment of disease has been associated in the medical mind with charlatanism and quackery, and has caused physicians generally to cast the subject aside as one unworthy of consideration; or else they have declined to use such methods for fear of being classified with these imposters, or of being accused of adopting their methods.

The time has come, however, when physicians are recognizing the fact that the influence of the mind over the body is a potent factor, not only in relieving, or at least ameliorating, many of the ills to which the human flesh is heir, but that it is important in shaping the character and determining the usefulness and happiness of many individuals. It is further recognized that physicians were the first to discover the fundamental facts which form the basis of mental science; and that, whatever knowledge we have of the subject, it is the legitimate property of the medical profession.

The history of the treatment of diseases through psychic impressions dates back to the dark ages, and it has been employed in some form by every people—from the most barbaric and ignorant to the most civilized and learned. It is true that, until

recent years, they were totally ignorant of the manner in which the various methods employed by them acted, but in the light of the knowledge of the present day we know that it was through the ignorant application of the laws governing the power of the mind over the body. These laws are not yet thoroughly understood, although several theories have been advanced by students of psychology concerning them.

That which seems to account for all psychic phenomena in the most rational manner, and which is at least a working hypothesis, assumes that the human mind is dual in its capacity, or that man is endowed with two minds. One is termed the objective—or voluntary—the function of which is to bring us into conscious relationship with the outside world through the medium of the five special senses. It is the outgrowth of man's physical necessities and is the seat of the power of reasoning. The other,—termed the subjective, or involuntary,—controls the functions, conditions, and sensations of the body, and is at all times amenable to control by suggestion, made either by the individual or by external agencies; and in proportion as the objective mind is held in partial or complete abeyance are suggestions received and acted upon by the subjective. It further appears that co-operation on the part of the patient with the efforts of the operator and confidence in the methods employed are necessary to produce in the patient a receptive or suggestible condition. In other words, confidence in the methods and in the operator excite in the objective mind of the patient a degree of attention or concentration sufficient to hold it in abeyance, and while in this condition the suggestions are acted upon by the subjective mind. It is not necessary that either the operator or the patient understand the principles involved, for, when the proper conditions exist the suggestion is obeyed, the subjective mind not being capable of reasoning, but simply obeying the impression conveyed to it through the objective mind.

Assuming the correctness of this theory, it is not difficult to understand much that in the past has seemed mysterious, or to account for the rise and prosperity of such institutions as Christian Science, Osteopathy, Magnetic Healing, Divine Healing, Mesmerism, Hypnotism, Faith Cure, Dowieism, etc., as well as many wonderful cures claimed by the many nostrums with which the country is flooded. Suggestion is the therapeutic agent which is, either consciously or unconsciously, employed by them all, and to the psychic impressions produced by it may

be traced all results obtained, whether good or bad. To this powerful agent may be ascribed the fact that quackery, in all its forms, has flourished simultaneously with the wonderful advance which has been made in scientific medicine,—for that quackery has flourished needs no argument; and it cannot be successfully disputed that it has under many various synonyms for suggestion made many remarkable cures. But for this agency, all these institutions, based on error, impiricism, and fraud, would soon come to an end and fade away before the spread of knowledge and the decay of superstition.

That this power has fallen into disreputable hands, or because we cannot define its exact nature, should not deter physicians from its intelligent and legitimate use as a therapeutic agent. Whether we accept the theory of the duality of the mind or not, it is generally admitted that psychic impressions influence and modify physical conditions, and that suggestion, under certain conditions, produces deep and lasting mental impressions. This being true, it is evident that everything which goes to make up a physician's personality, under proper conditions, becomes a suggestion to the mind of his patient, producing impressions perhaps potent for good or evil. Every physician is thereby unavoidably practicing suggestion in connection with every remedial agent which he employs. This unknown quantity entering into the treatment of every case explains, to a large extent, the apparently variable and uncertain effects of drugs. For, while accuracy in diagnosis and correctness in the administration of medicines is paramount, a disregard of psychic impressions often leads to confusion and uncertainty as to the action of other remedial agents.

To this influence may be attributed the success of one physician and the failure of another, both being of equal ability and laboring under similar conditions; or what is worse, the quack, with his advertising methods and pleasing personality, succeeds where the scientific physician, minus his personality, fails. Did the Materia Medica contain a drug of equal potency for both good and evil, it would be labeled "Poison," and would be entrusted only to the hands of those qualified to use it. It would come within the provisions of the law regulating the practice of medicine, and every medical student would be required to show his familiarity with the laws governing its use before being granted his diploma.

The highest legal tribunal of our State has decided that medicine is a technical art or science, and as a science the practition-

ers of it are not simply those who prescribe drugs or other medicinal substances as remedial agents, but that it is broad enough to include, and does include, all persons who diagnose disease and prescribe or apply any therapeutic agent for its cure. A prominent medical authority has defined scientific medicine as "The sum of systematized knowledge acquired in every conceivable manner, and that it must have full and perfect liberty and not allow itself to become imprisoned within certain limits, and that its object is nothing more than truth itself." Under these definitions, we, as regular physicians, are justified in the adoption and use of any agent whatsover, which insures the greatest good to the patient, and in neglecting or refusing to adopt as a part of our armamentarium the potency of mental therapeutics we do, not only ourselves and our patients, but the regular medical profession and the public, an injustice. To leave this agent in the hands of quacks simply because it smacks of quackery is encouraging the impostor to continue to exploit the power of mind over matter under some other name, frequently discounting the efforts of regular medicine, educating the people to rely upon superstitious methods, and depriving the regular medical profession of a powerful adjunct to all other methods of treatment.

Would it not be more in keeping with the progress of the twentieth century to embody mental therapeutics in the curriculum of our medical colleges, and to give to it that study and investigation which will enable us to understand its laws and limitations, so as to employ it intelligently and wisely? This would not only establish it on a scientific basis and expose the methods under which it has been so thoroughly and unscrupulously exploited, but would ultimately eliminate all suspicion of its present unethical character.

In this brief article I have not attempted to more than refer to some of the more interesting and practical points of the subject, "Psychic Impressions as a Therapeutic Agent;" a subject upon which volumes have been written and which is engaging the attention of some of the best minds of the day. I am aware of the fact that opinion is very unsettled as to most of the claims advanced by the advocates of therapeutic efficiency, and that by some it is even regarded as simply a passing craze and unworthy of consideration. I am prepared to state, however, for reasons which I have imperfectly set forth in the foregoing, as well as from practical experience, that I endorse the views of that part of the profession which believes that, shorn of the fraud

and superstition with which quackery has surrounded it, it is one of the most powerful therapeutic agencies at our command; and that the perfection of our knowledge concerning its laws, and its universal adoption in medical practice, will not only prove it one of the greatest blessings to humanity, but will give to the practice of medicine the nature of an exact science, by eliminating to a great extent that element of doubt and uncertainty as to effect, which accompanies the administration of nearly all remedial agents.

I do not hope, nor is it the purpose of this imperfect paper, to change the opinion of anyone regarding the power of psychic impressions, but if it should aid in directing the attention of the regular medical profession to the subject in such a manner as to stimulate further investigation, I shall be content.

DISCUSSION.

Dr. Wyman: "I desire to say just a few words upon the subject that has been so ably presented for your consideration. It is a subject to which the practitioners of medicine have devoted very little attention. Undoubtedly psychic impressions do exercise a very important influence in the control of cases, particularly nervous diseases, and I think we should consider the subject carefully in order to determine what class of cases psycic therapeutics are applicable to. As physicians, we recognize the mind as a force generated by the brain. I ought not to discuss the question as to the duality of the mind; I do not believe in the duality of the mind as advanced by Dr. Henderson. Now, the use of suggestive therapeutics, as I have just said, is a very important one, but there is only a limited class of cases in which it is useful. Undoubtedly the personality of the physician has much to do with the successful treatment of these nervous diseases. We all know from practical experience that there are some minds more impressionable than others. I will also say that the patient is much influenced by the removal and isolation from family and friends, and is put under the care of a trained nurse. That nurse must be a woman of suggestive influence, and, where this is the case, the doctor will be more successful than a man who is lacking in that degree of personal magnetism which is so necessary."

Dr. Henderson. "As stated in my paper, Mr. President, I could not expect to change any one's mind, and I do not believe

I have any further arguments in regard to the power of mental therapeutics. My object was to lead the profession to take up the subject and study it, so that members of the profession may practice it in their regular practice; it should be investigated and applied in its proper sphere."

PURE DRINKING WATER FOR COUNTRY HOMES AND VILLAGES UNSUPPLIED WITH WATER WORKS.

By Edgar B. Kay,

Professor of Civil Engineering, University of Alabama.

Mankind everywhere in every state of savagery or civilization must have water for drinking and cleansing purposes and other domestic needs.

The earliest method of obtaining a water supply artificially was doubtless by the digging of wells. These, at first, were very shallow cavities scooped out of the ground in moist places, such as are used at present by savage tribes and isolated pioneers.

"As necessity arose and the use of implements developed, these wells were gradually deepened." In the vicinity of the Egyptian pyramids there still exists wells which were in use when those wonderful works were constructed. "Joseph's well, at Cairo, is perhaps the most famous of all ancient wells." "It is a remarkable work and exhibits in a high degree the skill of the people of ancient Egypt in the constructive arts. It is excavated in solid rock to a depth of 297 feet and consists of two stories or lifts; the upper shaft being 18 by 24 feet and 165 feet deep; the lower being 9 by 15 feet and reaches to a further depth of 132 feet. Water is raised in two lifts by means of buckets on endless chains, those for the lower level being operated by donkeys in a chamber at the bottom of the upper shaft, to which access is had by means of a spiral pathway, winding about the well." Ancient historians make frequent mention of important wells in Assyria, Greece, India, and Persia. The Chinese probably dug the deepest wells, depths of 1,500 feet or more being reached by methods almost identical with those now in common use.

Beside the ancient practice of digging wells, many works for the storage and conveyance of water were executed. "In Jerusalem, underground cisterns were built for the storage of rain water; and other reservoirs were built to store the water, which was brought thither in masonry conduits." Among ancient systems of water supply the works of the Romans surpassed those of all nations both in size and number; and no city was more abundantly supplied than Rome itself." Previous to about 312 B. C. Rome obtained its water from the Tiber and from springs and wells in the immediate vicinity, but this water became finally so badly polluted that a purer supply was sought from distant sources. The first Roman aqueduct, built in 312 B. C., was about eleven miles in length. A second one was built about 270 B. C., with a length of 39.5 miles, 1,080 feet of which was supported on arches. Other aqueducts were built from time to time until finally about 305 A. D. there were fourteen with an aggregate length of 359 miles; and aggregate length of arches, 50 miles. In Rome the water from these aqueducts first passed into large cisterns, and from these was distributed through lead pipes to other cisterns, and to the fountains, baths, and various public buildings and to a limited number of private consumers. "At the time of Constantine there were in Rome 11 thermæ, 926 public baths, 1,212 public fountains, and 247 reservoirs."

The first works in America for the supply of water to towns, were those of Boston, built in 1652, and served to bring water through wooden pipes by gravity from springs. Bethlehem, Penna., was the first town to employ machinery. That plant was put into operation June 20, 1754. In this system the water was also taken from a spring, which is still in use as a source of water supply. The water at Bethlehem was forced by a pump of lignum vitæ of five-inch bore through hemlock logs into a wooden reservoir. In 1762, Hans Christ Christiansen, the original builder of the works, replaced the wooden pump by three iron ones of four-inch bore and eighteen inch stroke which were used until 1779. Probably the first chartered water company in America was that for supplying Schaëfferstown, in Lebanon County, Pennsylvania. This small Pennsylvania Dutch village was the summering place of a wealthy German count, who obtained a charter from King George III., to build and operate a gravity water works system in the village. The entire system did not exceed more than a half mile in length of wooden pipe, which was laid from a spring to a public

square where a fountain and watering place were established. The watering place is still maintained. The Providence, R. I., works were built in 1772; and it is said that the Morristown, N. J., works, put in operation in 1791, were next.

The first use of the steam engine for pumping water was at Philadelphia, in 1800. The engines were constructed largely of wood, and even the boiler was partly of the same material. An illustrated description of this plant is given in Engineering News, 1903, Vol. XLIX, p. 425.

Steam was applied in New York's water supply system in 1804, the works having been inaugurated in 1799.

In the United States, as well as abroad, wooden pipes were at first used to transport the water, but it is stated that cast iron pipes were used in Philadelphia as early as 1804, and were also used at Boston about the same time. After practically a century underground, some of those old Boston pipes have been found in fair condition; and they were not coated with any preservative, as are all modern cast iron pipes. The writer removed a couple of miles of cast iron pipe that had been in service for over sixty years at Lewiston, Penna. These pipes were coated with a thin scale of rust on the outside, but showed few signs of disintegration on the inside.

Today, there are very few towns or villages in the United States having a population of 1,000 or over, which do not have a water supply system, controlled or operated either by the municipality, a stock company, a corporation, or by one or more individuals.

These water works systems, being so generally introduced, are made necessary by the demands of modern civilization for healthfulness, cleanliness and convenience, as well as to meet the needs for fire protection, street sprinkling, and other public uses.

The total number of water works systems in operation in 1800 in the United States was only sixteen. There was little progress made in their construction in this country until about 1850. How very rapid the recent growth has been, is shown by the following table given in the "Manual of American Water Works for 1897."

Year.	No. of works.	Works built each period
1850	83	
1855	106	23
1860	136	30
1865	162	26
1870	243	81
1875	422	179
1880	598	176
1885	1013	415
1890	1878	865
1896	3196	1318

The new works built since 1890 are mainly for small towns, but an enormous amount of work has been done each year in increasing the supplies or rebuilding existing plants. According to Professor Turneaure the total population supplied in 1880 was 11,809,231, while in 1890 it was 22,814,061, nearly one-half of the increase being due to increase in population of cities already supplied in 1880. The total estimated cost of the works up to 1891 was $543,000,000.00.

Considering that there is scarcely a town of 1,000 inhabitants in the country without some sort of public supply, it is readily seen how great has been the development during the past decade.

It is from the literature and experiences in connection with water supply systems that have been constructed and the investigations that have been made to obtain a satisfactory supply of safe water for drinking and other purposes that we shall gather the data for the purposes of the theme upon which I have been asked to present a paper at this time.

SOURCES OF SUPPLY.

The problem which confronts the engineer in seeking a water supply for a small village or town is very different from that for a large city, and usually the finding of a satisfactory supply is a much less difficult matter, because of the smaller quantity required.

In any case, the problem is dependent mainly on the geological structure of the rocks and soils from which water supplies may be gathered in the different localities.

The sources of water supply are broadly divided into two classes, to wit., surface waters and ground waters:

Included under surface waters are:
1. Rain water collected from roofs, etc.
2. Water from rivers.
3. Water from natural lakes.
4. Water collected in impounding reservoirs.

Included under ground-waters are:
5. Water from springs.
6. Water from shallow wells.
7. Water from deep and artesian wells.
8. Water from horizontal galleries.

In the determination of the source of supply for a village, or town, the engineer seeks, first, to find the purest water in the vicinity that is ample in quantity; and, secondly, to estimate the cost of obtaining the supply, and the maintenance of the supply, when once introduced.

QUANTITY REQUIRED.

The usual method of calculating the quantity required for any village is so many gallons per capita per diem, being the yearly average. This assumption, which is often true for the year, is not true for different periods of the year. There is great variation in the consumption of water in different towns, due in a large measure to the different uses to which the water is put.

In the smaller towns, although some water may be used for manufacturing or mechanical purposes, it is not likely to be so used to a great extent, and it is generally possible to obtain a satisfactory supply from other sources, at a less cost, particularly if the quantity used is large. In manufacturing towns, especially those in which the manufacturers obtain independent sources of supply, the quantity of water used for domestic purposes is less, as there is apt to be fewer fixtures in the houses and little water used for the sprinkling of lawns, etc. In suburban cities and towns the use of water for domestic purposes is probably greatest. During the year 1900 the Massachusetts State Board of Health reports the following average consumption per person per day:

Metropolitan water district .....113 gallons
Average of 11 suburban cities and towns..... 69 gallons
Average of 12 large manufacturing cities..... 60 gallons
Avereage of 33 smaller manufacturing towns..... 42 gallons
Average of 7 summer resorts ..... 66 gallons

When a water works system is first introduced into a town, the consumption is comparatively small per capita, due to the limited number of people using the public supply, but the number supplied increases rapidly in most cases, especially if the water is of excellent quality, until, after a few years, water is supplied to practically the whole population. At the same time, the number of plumbing fixtures in the houses gradually increases and the water is used for an increasing number of purposes. The introduction of sewerage systems also greatly tends to increased water consumption.

The average consumption per person per day in 24 Massachusetts towns increased from 23 gallons, for the first year after the water was introduced, to 36 gallons at the end of the fifth year, and to 43 gallons at the end of the tenth year.

Besides the variation in the amount of water required from year to year, there is a very marked difference in the monthly variations in the consumption in all towns. This variation is due to a variety of causes, the chief of which is the use of an excessive quantity of water during dry weather for sprinkling lawns, gardens, and streets; the amount depending upon the length of the dry season and the temperature. Again, during the coldest period of the year there is usually an increase in the consumption of water, due to the waste of water from faucets to prevent the pipes about the house from freezing. In general it may be said that the consumption of water is influenced by the amount of rainfall and the degree of heat or cold.

Records have also been kept by many cities and towns to show the variation for shorter periods, not only to determine the maximum weekly consumption, but the hours of maximum consumption, daily.

The maximum consumption in any town would occur when a demand for fire service happened at the hours of maximum consumption for other purposes. Turneaure & Russell, in their book on Public Water Supplies, state that the maximum daily ratio may be assumed as equal to 150 per cent of the average daily consumption; that the maximum hourly relation of maximum daily equals 150 per cent of the 150 or 225 per cent of the

average daily, to which 141 per cent of the average daily consumption is added for fire-fighting purposes, making a total of 366 per cent. of the average daily or a little over three and six-tenths times the average daily consumption for the year. The conclusion to be drawn from the summarization of all the data obtainable seems to be that the supply, whether gravity or pumping, must be proportioned largely in excess of the average annual consumption per capita. For domestic use, 30 to 50 gallons per capita per day should be sufficient; where street sprinkling and lawns are extensively watered, as well as gardens, the total amount of water used may reach as much as 75 gallons per capita per day, but will seldom be above 60 gallons per capita; where manufacturers and other large consumers, such as railroads, use the public supply, the quantity required for the general use may reach as much as 150 gallons per capita, daily. These limits should not be exceeded where proper management is given, and in many cases these limits are not reached.

The high average consumption in most cities and towns is not due to the water that is actually used, but to the water wasted.

By the use of meters the per capita consumption has been reduced in some places as much as one-half, and it is the only effective means of waste-prevention.

QUALITY OF WATER FROM VARIOUS SOURCES.

Before considering the quality of the waters derived from the various sources already mentioned, it may be well to have a basis of quality established, which will serve as a standard for comparisons.

Pure drinking water and pure water are two expressions commonly employed to express the same thought, but inasmuch as there is such an important difference between the two kinds of water, it is necessary that we distinguish and classify them, in order that we may be enabled to secure what is desired. Pure water is not found in nature; it is a laboratory compound, hydrogen monoxide, symbol, H_2O. Pure water is a powerful oxidizing agent, and if it could be obtained as a supply for a household or a town, would be very unsatisfactory.

No neutral liquid surpasses water in its solvent action; that is, in its power of liquifying solid or gaseous bodies brought into contact with it, so that their particles become uniformly

diffused through it, without tendency to separate out again on standing. Pure water is therefore unsuited for domestic purposes, and is even more objectionable for generating steam, as the great tendency to oxidize the metals with which it would come in contact would so corrode and scale the boilers and pipes that their efficiency would soon be lowered and the apparatus destroyed. Chemically pure water is therefore not to be considered in our search for pure drinking waters, however much we may, under certain circumstances, employ the means used in the laboratories to procure pure water.

A suitable supply for drinking and ordinary domestic purposes should not only be pleasant and palatable, but, if possible, free from any marked color, or turbidity. This last requirement, while desirable, may not always be obligatory, as experience has fully demonstrated that many peaty supplies, and often turbid waters, may be used with perfect safety. A potable water should not be excessively charged with mineral matter. A common prejudice exists against the use of very hard waters, as they are supposed to result in the production of various diseases, as urinary calculi, goitre, cretinism, etc., but there does not appear to be well established scientific data that would positively confirm such opinions. It is more likely that intestinal and gastric disturbances may occur where permanently hard waters are used.

Exclusively hard waters are not desirable, as the flavor of many foods is considerably impaired when cooked in the same. The hardness of water is either temporary or permanent, depending upon the nature of the salts dissolved. If bicarbonates are present, the CO_2 contained in them is set free by boiling in which case a white precipitate, consisting of carbonate of lime, is formed. As this reduces the amount of lime in solution, the hardness is diminished, and such waters are called temporarily hard, in contradistinction to those containing the sulphates and chlorides of lime and salts of magnesia which are not so affected; hence waters containing these salts in abundance are permanently hard. All hard waters are unsatisfactory for boiler use or washing. Iron-bearing waters are also unsuitable for domestic supply, as the tannin in tea and many vegetables produces a black precipitate. These waters are likewise detrimental for laundry use, as the oxidation of ferrous salts upon exposure to the air produces rust-spots upon clothes. When iron is present in water it generally comes from the source of supply, and is not derived from the pipes except under certain circum-

stances. Where present in the proportion of 0.5 to 1.0 per million, the water generally has an objectionable taste, and while the presence of the metal in small quantities is not attended with serious results to health, its undesirable taste and appearance are against its use.

Zinc is much less liable to cause trouble, although where water is in contact with galvanized pipes an appreciable amount of zinc may often be determined. Of the various metals that may be found in waters in sufficient quantity to be harmful, lead, zinc, and iron are the most likely to occur. When the water is acid, as in peaty waters, or where CO_2 is present in large quantities, the solvent action on the lead is much increased. In such districts many cases of lead poisoning have been known to occur. Besides the sulphates of calcium (lime) and magnesium, sulphates of sodium and potassium occur in small quantities and have the effect of causing boilers to foam, but deposit no scale. Chlorine generally occurs in water in the form of common salt, sodium chloride. The sources of most chlorine in water are: the ocean, from which it is carried by evaporation and held in solution by the rain; the salt deposits on the surface, as on the western desert, or in the ground as in western New York, Ohio, Kentucky; and lastly from sewage and urine. Rain water in certain parts of Massachusetts contains 2.5 parts of chlorine per 100,000, and 7 parts have been found in rain water in England. A well in St. Augustine, Fla., contains 196 parts per 100,000, and wells in Onondaga county, N. Y., contain about 15,000 parts per 100,000; while the great Salt Lake contains 20,000 parts, or nearly a saturated solution. The water last mentioned are not potable and cannot be used for boilers, or probably for any purpose for which water is required except fire extinguishing purposes. In New York City, the fire department is equipped with steamers which use the ocean water; and it was those engines that did such great service in the recent Baltimore fire. The amount of salt contained in any rain-water, or surface water deriving its salt from the atmosphere, is neither injurious, unpalatable, nor harmful to boilers. If it were not for the fact that salt is contained in sewage, it would generally be unnecessary to determine its quantity in water. To decide how much of that found in a given water is due to sewage pollution, it is necessary to know the amount present in uncontaminated or normal water in the locality in question. This is generally determined by analyzing surface water (if it is a

surface water that is being considered), taken above any possible sewage pollution, and comparing its chlorine with that of the water in question. If it be a ground water that is being considered, little can be learned as to sewage pollution from the chlorine determination. In Massachusetts and other States, the boards of health have made analyses in all parts of their States, and thus determined the "normal chlorine" for each section. In general, the amounts have been found to vary with the distance from the ocean. By means of "isochlor" lines the normal amount of chlorine has been represented for both Massachusetts and Connecticut. If the water in any place contains more than the normal chlorine, it should be looked upon with suspicion until further examination reveals the source of excess. Another quality of a pure drinking water is freedom from odor; this may be caused by organic or mineral impurities, and may be either in solution or suspension: this organic matter may be either living or dead; animal or vegetable. Mineral matter can generally be determined quite accurately as to both kind and quantity. The organic can be quite accurately determined as to quantity, either in solution or suspension; the living organisms can be classified by the microscopist with considerable minuteness and certainty, although much yet remains to be learned in this line; but of dead and putrescible organic matter, and the products of decomposition of this, little can be learned through the microscope, and chemistry can but discover the elements of mineral compounds which enter into the composition of such matter. The chemist may determine the amount of nitrogen in a given water; and knowing that sewage contains a large amount of nitrogen, may suspect sewage contamination. But he cannot say that this element was not washed out of the air by the rain or from peat deposits in the earth by ground waters. In almost every case the actual amount of matter discovered is too small in quantity to be injurious. In the average sewage, the total impurity is less than one-thousandth of the amount of pure water which carries it; and a river water which the senses would not condemn, would generally contain not more than one fifty-thousandth of impurities. It takes about 1,000 drops of water to make a half pint, or ordinary glassful, so that the amount of impurity, harmless and otherwise, in a glass of such water would be one-fiftieth the size of a drop. It is not, therefore, the matter found, but the inference from its presence, which is important.

Similarly, the bacteriologist may determine that a cubic centimeter of water contains a certain number of bacteria, but in few cases have pathogenic bacteria been recognized with certainty in drinking water; and the number of all kinds present is but an indication of the amount of organic impurity, which may be very largely harmless. Water analyses, therefore, are experiments undertaken to assist the judgment in determining the potability of the supply. They are valueless without a knowledge of the surroundings from which the water was obtained, and the manner of obtaining it. However, because the chemist cannot certainly find specific injurious matter, except by inference, this is no reason for neglecting his services; on the contrary these should be used for all they are worth—and this may be considerable—and interpreted in comparison with all other available data.

Much of the suspended matter in some waters may become dissolved if time is allowed; the organic matter may be resolved into its inorganic elements and these may alter their combinations.

Organic matter appears in water as living organisms, animal or vegetable; products of organic life, as albumen, urea, tissue, etc., dissolved or suspended; and products of decomposition of organic matter, including mineral matters, as salts of ammonia and carbonic and nitric acids. Carbon and nitrogen oscillate between the organic and inorganic state. Organic matter can not be determined directly by chemical analyses, but only by indirect methods; the nitrogen compounds being generally taken as an index of the amount present, since it is the *nitrogenous organic matter which has* the greatest sanitary importance, owing, not only to the facility with which it undergoes decomposition, but also to the fact that nitrogen is an essential element in all living matter. Analytical processes of great accuracy enable us to determine nitrogen in four forms, namely; as organic nitrogen (albuminoid ammonia), as ammonia, as nitrous acid, and as nitric acid. Organic matter consists chiefly of carbon, hydrogen, nitrogen, and oxygen. When its life departs, it begins decomposition, first by oxidation of the carbon, which leaves the nitrogen combined with hydrogen in the form of ammonia; and subsequently by the oxidation of the ammonia to nitric acid (NH_3 to HNO_3), which generally combines with some mineral base in the water. The free ammonia discovered by chemical analysis indicates that organic matter once present has begun

rapid decomposition. That not yet decomposed, whether living or dead, is changed by the addition of chemicals to ammonia and given as albuminoid ammonia; while ammonia, which has been oxidized is recorded as nitrites or nitrates according as nitrous or nitric acid has been formed. Albuminoid ammonia is about 14-17 nitrogen, the amount of this obtained by the analysis is about one-half the organic nitrogen present.

Albuminoid and free ammonia, therefore, represent nitrogen in the early transition stages, and inasmuch as these products invariably accompany fecal matter, their presence in water is of sanitary significance. Waters may, however, contain considerable quantities of free ammonia under normal conditions and still be entirely wholesome, as in peaty moorland waters, in rain water, and even in artesian wells. It is evident from what has already been said concerning the physical, microscopical, and chemical examinations of a water as to its suitability for public use that it is impossible to determine the character of a water by a single test. For a drinking water the most important investigation should be to determine the presence in the proposed supply of specific organisms of disease, which are the really dangerous and polluting elements.

Before attempting to summarize the characteristics of a suitable water for household purposes and the various methods that are employed to determine its quality, your indulgence is asked while an attempt is made to review the tests that have been made for bacteria of specific types as an index of pollution. In the 34th Annual Report of the State Board of Health of Massachusetts, Messrs. H. W. Clark and Stephen De. Gage publish the results of the exhaustive and elaborate experiments and investigations that have been carried on at the Lawrence experiment station for a number of years. The principal types of bacteria used as indices of the pollution of water are the colon type, the sewage streptococcus type, the sporogenes type, and occasionally the two so-called para-colon types; that is, the aerogenes, or enteritidis, Garter type; and the chologenes type. The colon is the most numerous of the various types in normal sewage, and is, accordingly, considered of the most value as a specific indication of pollution. The colon tests, correctly interpreted, are undoubtedly a valuable aid in the analyses of certain classes of water where the determination of suspected pollution becomes necessary. Examinations of sewage at Lawrence show that, in dilutions of one in 10,000, we may expect to find the bacillus

coli in 95 per cent of the samples, and that we may identify the sewage streptococcus in 67 per cent of the samples. A dilution of 1 in 50,000 cuts the percentage of positive tests for the bacillus coli to 78 per cent of the samples, and the percentage of streptococcus to 6 per cent of the samples. Even in dilutions of 1 in one million the bacillus coli was found in 6 per cent of the samples. While these colon tests are interpreted only in the light of their indication of fecal pollution, many bacteriologists have an underlying, if not a freely expressed, opinion that the bacillus coli has a greater significance. That this opinion is prevalent, is indicated by the numerous articles in which the bacillus coli and bacillus typhosus are compared, especially by bacteriologists working along pathological lines, many of whom have sought to show an interrelation between the two species, with allied species or races filling in the gap between the two, until we have a graduation of forms from one to the other, and the introduction of the terms para-colon and para-typhoid.

Furthermore, it is believed by many that the bacillus coli and some of the so-called para-colon types are in themselves the cause of intestinal and digestive disorders, and even of maladies closely approaching typhoid fever. In the recent epidemic of typhoid at Ithaca, N. Y., attending physicians diagnosed no less than 16 cases of para-colon fever, and one death from the same cause was given.

While it has been definitely established that the bacillus coli and the bacillus typhosus are two distinct types, comparative tests for the relative viability show that there is a very great similarity between the length of life of the two germs under a great variety of conditions.

Outbreaks of typhoid fever coincident with the finding of the bacillus coli in normally pure waters, i. e., in water known to be safe under ordinary conditions, but becoming polluted by the entrance of polluted water, have occurred at least in three instances in Massachusetts, where the danger was not indicated by chemical tests, or by a significant increase in the numbers of bacteria beyond the usual limits of variation for waters of their classes. The second outbreak of typhoid at Ithaca last summer was traced directly to a well that was normally regarded as furnishing safe water. In this case it was conclusively shown that the bacillus typhosus was carried into the well by sewage deposited on the surface near by. While there are other mediums of typhoid infection besides drinking-water, the fact that purifica-

tion of the water supply in almost, if not quite, every case greatly reduces the typhoid rate, seems to argue that drinking water is by far the most important one. The two well known instances of Hamburg and Altona in Germany, and of Lawrence and Ithaca in this country, are but pronounced illustrations among a great number of cases of the effect of water on typhoid death-rates. It has been demonstrated at Altona and Hamburg, and in many other places, that cholera is also a water borne disease; and it appears to have been demonstrated that an impure drinking water is a very important cause of diarrhœa, malaria, and intestinal diseases.

REQUISITE QUALITY.

In deciding what can be called a pure water, or what limit of impurity can be fixed for potable water, great difficulty arises. Attention should, of course, be given to a proposed water supply from other points of view, but relation of disease-dissemination is of paramount interest. In determining, by means of a sanitary analysis, whether any water is suitable as a public supply, various methods have been followed as knowledge regarding these problems has been broadened. None of these methods, however, which have yet been introduced, are wholly satisfactory, and the subject of sanitary water-analysis is far from being reduced to terms of mathematical accuracy. One prominent reason for the unsatisfactory results that are frequently found in analytical work, is that many of the determinations apply only indirectly to the presence of specific disease organisms. This indirect relation, therefore, raises a question that must be interpreted anew in each individual instance. It calls for a discriminating judgment on the part of the analyist. In fact, the data which he collects do not answer definitely and decisively the question as to the purity or pollution of a supply, but as Professor Mason has expressed it, it merely aids him in interpreting his judgment. He says: "There is a very common disposition to look upon a water analysis as something similar to an assayer's test for gold,—something which can be positively determined. But when there is taken into consideration the wide range that may exist in waters from various sources, and how the analytical results obtained in such examinations will of necessity be interpreted differently in samples coming from different regions, it is manifestly impossible for the an-

alyist to arrive at any satisfactory judgment unless he is more or less familiar with all of the data that are immediately related to the case. The character of the stratum from which the supply is derived, the possibility of pollution, and the nature of the same, the kind of water, the conditions under which the sample has been secured and kept, are all questions concerning which he should have full and explicit knowledge. It is, of course, possible in extreme cases, such as badly polluted or exceptionally pure waters, to determine their nature with certainty from a mere examination; but in the great majority of cases where the conditions are less pronounced, the judgment may be at fault because of ignorance of local conditions." A sample which would be regarded as satisfactory for a surface water might be condemned from a biological standpoint if from a well, while a chemist would frequently reverse the conditions in testing certain artesian and surface waters. Chemical analysis can inform us of the amount of organic matter which is and which has been present, but not as to whether this is animal or vegetable, morbific or otherwise. Bacteriological analysis can inform us of the approximate number of bacteria per cubic centimeter in a water, but not always with certainty as to the presence of pathogenic ones. Hence no absolute standards can be based upon the determinations of either or both of these alone. The probability of either bacteria or organic matter being of such a character as to render the water dangerous must be judged from their probable source and origin. Definite knowledge of a certain character is often desired as to the quality of water for different purposes, particularly in various classes of manufactures, but these data do not fall within the province of the sanitary engineer. "A sanitary analysis is the study of a water with the view of determining whether it now contains, has contained, or is likely to contain, anything that is detrimental to public health." Not only must potable water be free from any taint of suspicion that would indicate dangerous pollution, but, at the same time, should not be objectionable in taste and appearance. A water supply should be suitable for laundry and general domestic use. This condition in many of the limestone regions is difficult to satisfy, and in such communities it is sometimes necessary to depend upon rain water stored in cisterns for all washing and laundry purposes. The majority of people mainly judge of the quality of water by its taste and appearance. If it is clear and sparkling and is fresh in taste, they will use it

without question, caring little as to the possibility of pollution with disease bacteria. If these physical conditions be altered, suspicion at once attaches itself to the supply. This very general opinion arises from a rational conviction that wholesome water, especially that derived from the ground, is clear and ought to remain so. If by any cause a change occurs, it signifies a change in conditions,—a state to which ground waters of first quality ought not to be subject. A water supply, subject to sudden and considerable fluctuations in its chemical and biological composition, is generally one that should be regarded with suspicion, at least until the cause of such variations is satisfactorily explained. For other than sanitary reasons, it is evident that a suitable supply of water for domestic and drinking purposes should contain little sediment or dissolved mineral matter or acids; should have no appreciable color, taste, or odor; should be free from organic matter, living or dead, and the cooler it can be delivered to the consumer the better.

WATERS FROM VARIOUS SOURCES.

Having outlined the requisites for a suitable drinking water, the waters from various sources will next be considered.

METEORIC WATERS.

Meteoric waters include the various forms of rainfall, as rain, snow, hail, dew, etc., and while they are not to a very great extent used as the immediate and direct source of supply in the Northern countries, there are many towns in the South, and in the adjacent countries and islands, that rely wholly upon the collection of water from the roofs of dwellings and other buildings. As watery vapor condenses in the air and is precipitated, whether in the form of rain or snow, it absorbs impurities from the atmosphere. Particles of dust and dirt are washed out of the air, and in the neighborhood of large towns, soot and other combustible products may pollute these waters to a very considerable degree. The gases that are naturally present in the air are more or less absorbed; not only is this true of the more important constituents, Nitrogen, Oxygen and Carbonic Acid, but such substances as ammonia, sulphuric acid, nitrous and nitric acids are generally found. Naturally, meteoric waters are deficient in mineral matters and are soft. Where extremely

soft their action on lead pipes is severe. Water in falling to the ground also takes up germ life from the air. Bacteria and spores of fungi find their way into it in considerable numbers from the sub-joined soil layers, and while they are incapable of multiplication in the air, yet in the dried condition many forms can retain their vitality for long periods with the result that either rain or snow catches these floating forms of life, and so they are carried down. Even in hailstones they are to be found without exception. As these meteoric waters fall to the earth, a portion of the same is evaporated back into the air, while the remainder either finds its way into the water courses or percolates into the underlying soil. That which is apparent on the surface of the soil is termed surface water, which also includes that portion of the supply which has been subject to more or less percolation through soil layers, including springs, and ground-water drainage into rivers.

Since surface waters are brought into contact with mineral and organic matter which renders them more or less impure, the quality of such waters is subject to much fluctuation. Organic refuse, either of human, animal, or vegetable origin, finds its way into these waters with the inevitable result of greater or less pollution. Inasmuch as the most dangerous refuse of this character is that connected with human existence, it follows, where pollution is at all possible, that the density of population will exercise a potent influence on the character of such supplies. For this reason the use of surface waters particularly those of flowing streams in densely populated watersheds is a menace to public health, unless they are first subjected to some adequate method of artificial purification. Naturally, the availability of running streams as sources of public water supply has led to their more frequent adoption than in any other kind of surface water, but it must be remembered that this is not because they are of better quality. Water in flowing over the surface of the soil naturally acquires numerous impurities that it would not take up if it remained quiescent. One character of flowing waters is the sudden change in composition that is liable to occur at almost any time. Hence such a supply which may be entirely satisfactory for the greater portion of the year may be rendered undesirable in a short time. Again, running streams are the natural drainage channels of a region, and they frequently serve to a large extent as sewage outlets for urban populations which are generally increasing in density. While there is an unquestioned purification of running streams due to aeration, chemical reactions, dilution, sedimentation, sunlight

and other causes, yet, from all available data, it seems evident that a stream once polluted with any considerable amount of sewage is unsafe to use for water supply so long as there is any trace whatever of pollution remaining. Disease bacteria can retain their vitality in water for a longer period than pollution can be recognized, hence the possibility of disease is present whenever it can be shown that a stream is polluted with sewage material.

LAKES AND IMPOUNDED SURFACE WATERS.

In general, lakes can be relied upon as more constant than rivers in both the quantity and quality of water available. In large bodies of water, such as the Great Lakes, the effect of pollution is limited to shore regions, but under certain conditions may be considerably extended, as is to be noted along the south shore of Lake Superior, where the water is frequently rendered densely turbid for a distance of from six to ten miles from the shore, due in this case largely to a stratum of red clay along the coast line. Rivers emptying into lakes, such as the Genesee into Lake Ontario, at Monroe, N. Y., will have their contents carried under favorable currents far out into the lake.

The quality of surface waters is sometimes affected by the development of vegetable life. This is particularly apt to occur in shallow lakes, where the growth of water weeds, as Myriophyllum, Chara, Vallisneria, Ranunculis, etc., may be so rank as to accumulate organic matter in large quantities. While these plant-forms have no direct relation to disease production, yet the decay of this vegetable material may seriously affect the quality of the water.

It was formerly held that the presence of any appreciable odor was due entirely to the natural processes of decay, but in addition to these it is now known that a number of living organisms, both plant and animal, give off odors during their development, due to the presence of oils formed in the cells. Oils of different sorts can be detected by the sense of taste in extremely dilute solutions. According to Whipple, the odor of peppermint can be noted in water containing one part oil to 50,000,000 parts of water. Among the number of plant and animal forms that frequently appear in ponds and reservoirs used for water supplies may be mentioned the following:

The Asterionella, which is a diatom; where only a few of these organisms are present the odor is aromatic; where more abundant, it recalls a geranium odor; and where very numerous,

a distinct fishy odor is apparent. Other diatoms are not infrequently found, but their odoriferous properties are less pronounced.

Grassy odors are caused mainly by the blue-green algae, the Cyanophyceae. The most distinctive member of this group is the Anabaena. When abundant, the water has a taste not unlike that of green corn. Vegetable odors are caused by the diatoms, Synedra and Melosira.

Of all impurities of this class in water, fishy odors are the most objectionable. One of the animal forms belonging to the protozoa Uroglena, produces an odor resembling cod-liver oil; while another — Synura — recalls the odor of ripe cucumbers. Troubles of this kind have appeared several times in the Boston (Mass.) water supply.

Troubles from bad or unpleasant odors in water supplies are very much more apt to occur in open surface waters than from any other; consequently impounded supplies may develop these abnormal conditions at times. Of 71 supplies examined by the Massachusetts Board of Health, a bad taste was noted in 45, and of these two-thirds gave serious trouble.

SUBTERRANEAN WATERS.

That portion of the rainfall which finds its way into the soil is rapidly changed in quality by percolation through the various soil layers. As it flows through the soil to the ground water level, it loses the larger part of the impurities derived from the air and the soil surface, but at the same time it absorbs other substances from the layers through which it passes, so that in general, the quality of subterranean waters is materially different from those of surface origin. To some extent the gaseous contents of rain water is changed as it courses through the soil. The particles of suspended matter, together with the organic matter and bacteria derived from the upper soil layers, are readily removed in the percolation process, so that at a depth of a few yards, at most, the germ life of the surface of the soil and all its attendant impurities have been eliminated.

The water flowing underground towards a stream or the ocean may emerge as springs or be reached by a well dug or bored to, and into, the porous stratum through which it flows. Such water seldom flows in the form of a stream, nor is it generally collected in caverns as underground lakes, although such lakes are occasionally found; but it usually fills the porous stratum throughout and moves slowly through the interstices

towards the outlet. This movement is not always downward, but the outlet must always be lower than the point where the water enters the soil. The distance through which the water must pass before it is sufficiently purified for potable purposes, is a question of very considerable importance. Judging from the higher typhoid mortality rates of populations using shallow wells, in comparison with those utilizing a supply from a deeper source, it is evident that efficient purification is often not reached in shallow wells. This is of course due in some cases to direct pollution. Not infrequently it may happen, where the ground water is subject to considerable oscillations in level, that at high stages this generally sterile water layer comes in contact with soil that is filled with putrescent matter or bacteria of morbific types. This condition might arise in towns where the land had been filled in and where decomposing organic matter is some distance below the surface of the soil. The depth necessary to insure efficient purification will also vary with the filtering power of the soil. Loose, sandy, or gravelly soil, having larger pore spaces, will permit of more ready filtration than compact clay loams.

Then there is the possibility of direct rifts or channels existing in the soil or rock. Holes made by animals, earthworms, crustacea, etc., frequently permit of direct passage of unfiltered water to considerable depths. A number of cases of wells and springs have been recorded where the germ content was so high, and of such character, as to leave no doubt but that there was direct connection with the surface. The classical instance of a typhoid epidemic at Lausanne, Switzerland, where the village-well was infected from a polluted brook over a mile distant, but which had an underground connection with the well, is a striking illustration of the unreliability of natural purification through soil layers. At Lausanne, 17 per cent of the entire population died of typhoid fever; only six families, whose water supply was not from the spring or well which supplied the rest of the village, escaped the contagion. "Two and one-half tons of flour dissolved in the water at the distant point from which the spring derived its supply were so completely filtered that no trace of discoloration appeared at the village; yet several hundred weight of salt being dissolved in the same manner, the water at the village became salty and undrinkable in a few hours. This experiment verified the suspicion entertained as to the spring being polluted by the excreta of a person attacked by typhoid fever upon his return from a distant city. The clothing of this patient had been washed in the

brook, the waters of which had been used for irrigating a meadow. The water thus spread over the fields, and filtered through a ridge for a distance of a mile still contained the germs of disease in it, and brought a terrible calamity upon the unsuspecting population of a hitherto healthy village."

SPRING WATERS.

To the popular mind, springs are supposed to represent the purest of supplies, but under certain circumstances this type of ground water may not be wholly pure. They are produced by percolating rain water flowing along an impervious stratum until it finds an outcrop to the surface. Often in mountainous districts the depth and thoroughness of percolation over and through rock masses is so limited that the water may not equal in purity the normal ground water. As a rule, spring waters, before exposure to surface of soil, are relatively deficient in micro-organisms, as they represent filtered waters; but as they appear at the surface, the water comes again in contact with organic matter and bacteria in the soil and may thus receive a considerable quota of organisms from this source, although generally the germ content of unpolluted springs is below 100-200 per cubic centimeter.

While spring water usually has a low initial bacterial content, the organisms found in this class of waters possess the property of very rapid multiplication during storage. For this reason all underground waters should be stored in covered cisterns or reservoirs.

WELL WATERS.

It frequently happens that there may be several impervious geological layers superimposed on each other that serve to collect the water from different areas. Under such circumstances, the upper stratum will retain the local ground water of the region, while the more copious supply beneath is the result of percolation from a larger and perhaps distant source. Shallow wells generally strike only the surface ground water, which is sometimes of poor quality; while the water of deep wells, which tap the larger, more universal supply in the rock, is usually more thoroughly purified. Shallow wells, dug in the soil and walled up dry, are found not alone in country homes, but in the more crowded portions of cities. Generally these are sunk in soil that is more or less thoroughly impregnated with or-

ganic refuse, so that the water in them is often in a polluted condition, not having been purified by its passage through a shallow, and at the same time contaminated, soil stratum. Again, wells of this character practically serve as drainage basins for the thickly populated areas above them, and when walled up dry, seepage from the soil is carried directly into them. The influence of near-by closets and vaults is thus frequently observed. Cesspools are particularly dangerous, because they contain so much water which must find its way into the soil by percolation. Just how far wells of this character should be placed with reference to vaults and cesspools, depends upon the character of the soil and the surface contour. In shallow wells where the ground water may be lowered by pumping, the zone of influence may be greatly extended. Pfuhl places the average distance at 100 feet, but it is evident that no exact limit can be drawn. Where the ground water lies near the surface the distance should be increased to a maximum limit. Wells of this class may be polluted directly from the surface, unless graded up so as to carry off the local drainage, and such wells frequently serve as disseminators of water-borne diseases. Their condition is at once betrayed by a chemical or bacterial test. If they contain large numbers of bacteria and the presence of gas-producing, indol-forming, organisms their impure condition is at once indicated. Such wells generally have a high chlorine content, as this element continues to increase with the growth of population, and the presence of a considerable quantity of ammonia and nitrogen, in nitrous and nitric acid forms, is further proof of pollution with organic refuse.

The better class of wells that are sunk into the permanent ground water are either drilled or driven. In these, the sides of the wells are made impervious to seepage by iron casing, so that, barring pollution from direct surface drainage at the top, the only ordinary chance for contamination is in tapping an impure ground water.

ARTESIAN WELLS.

In flowing wells, where the flow is always outward, it would be difficult to imagine how infection from outside might occur, and yet a bacteriological examination of such waters not infrequently reveals the fact that they contain some bacteria, although generally in greatly reduced numbers compared with ordinary wells. Such a condition would naturally seem at vari-

ance with the idea that the ground water is practically sterile, but, when one recalls that in a number of these deep subterranean supplies crustacea and small fish have been found in some cases, it is evident that a deep supply does not necessarily mean that the water has been filtered through a very deep layer of soil or rock. From many watersheds in the Atlantic and Gulf States the ground water travels hundreds of miles to emerge in the ocean bed far from shore; as off the coast of South Carolina, east of Matanzas Inlet, and off the shore of Pensacola, Fla. This Atlantic and Gulf Coast region furnishes one of the largest and most important artesian areas in the United States. It has its northern limit in Long Island, and extends to Texas in the south. Along the Atlantic coast it will average, perhaps, 100 miles in width, but along the Gulf it broadens out, extending up the Mississippi Valley as far as the Ohio River, and in Texas it has a width of 200 to 300 miles. The several strata in which water is found belong to the cretaceous formation. They outcrop along the foothills of the higher country to the west and north, dip towards the ocean at a considerable slope (20 to 40 feet per mile along the Atlantic coast), and presumably have their lower outcrop in the deeper ocean many miles from shore. Their connection with the ocean is indicated by the occurrence of ocean springs, and by the effect of the tides upon the pressure in certain wells. At Pensacola the water level in wells located several feet above sea level varies from six to ten feet as a result of tidal influence. The conditions in this great region are evidently very favorable for artesian wells, and the various water-bearing strata furnish an exceedingly valuable and pure supply, which can generally be obtained at comparatively low cost. Among the cities which get their supply from this source are Savannah, Charleston, Jacksonville, St. Augustine, Key West, Memphis, Galveston, Fort Worth, Atlantic City, Montgomery, Selma, besides many small towns; in addition, there are numerous artesian wells furnishing water for private use and farm purposes.

ICE SUPPLIES.

The quality of ice is dependent upon the character of the water before it is frozen. It is true that some of the grosser impurities are expelled from water when it is frozen slowly, but it does not follow that ice made from polluted water is safe for human use. Impure ice is as dangerous as impure water. Experiments have conclusively shown that typhoid and

other pathogenic organisms are able to retain their vitality for long periods of time when frozen. Some families use melted ice in summer as their principal drinking water. It is evident that the same care should be exercised to procure ice made from pure water, as is taken to procure and protect a general supply of pure water for all other household purposes.

THE SELECTION OF A SUPPLY.

It is evident from what has already been said that the development of a water supply for any home or town, where a general system of water-works has not been installed, is a problem separate and distinct from that of any existing plant. There never were any two towns in which the conditions of supply and consumption were identical.

J. H. Fuertes, in his book on "Water and Public Health," has arranged data from a large number of cities and towns, both American and European, and classified the various sources of supply in their relative purity as follows:

Class A.—Mountain springs, with sources undoubtedly beyond the danger of pollution.

Class B.—Water properly purified by slow sand-filtration.

Class C.—Pure ground water supplies.

Class D.—Surface-water supplies, with large, impounding reservoirs, and legal provisions against pollution.

Class E.—Large normal rivers, or rivers in which the pollution may be considered to have greatly vanished through the agency of sedimentation, dilution, and other causes.

Class F.—Large inland lakes, which may be subject to more or less pollution.

Class G.—Upland streams and small lakes, with limited watersheds, which are more or less inhabited.

Class H.—All rivers, and public and private wells, which are known to be polluted with sewage and other infectious matter, by varying degrees.

For individual supplies and villages, the selection of supply should be made from Class A. or Class C., if practicable. In Alabama, in the northeastern two-fifths or mineral region of the State, numerous springs appear, some of which have a large flow, as at Huntsville, and Tuscumbia; the flow from the latter spring being estimated at 1,000 cubic feet, or 7,500 gallons, per minute. While the springs in this region usually contain lime, and some contain sulphur, and other mineral matter, they are usually safe waters for drinking purposes. Many of

the mineral springs in this region have been employed for their supposed medical properties, and resorts have been established, which formerly were well patronized. In the southwestern three-fifths of the State, which embraces the coastal plain, or agricultural region, the possibilities of obtaining pure water supplies by flowing or non-flowing artesian wells are generally assured. The numerous wells that are now supplying private establishments, villages, plantations, and manufacturies all over this region, sufficiently justify this statement.

FILTERED WATERS.

Where it is necessary to employ surface waters, their use should be safeguarded by adequate filtration. The principle of slow sand-filtration, which is being employed by many cities, gives very satisfactory results, but is an impracticable method of purifying waters in small quantities. In fact, none of the various methods of filtering water for large supplies, including the Fischer tile filter, the various types of mechanical filters, the use of a coagulent, æration, the various processes of water softening, and treatment of iron waters, purification by electricity, the Anderson revolving purifier, and other forms and types of purifiers, are not adapted to the filtration of water in small quantities.

DOMESTIC FILTRATION.

Frequently it becomes necessary to adopt some means for the purification of a water supply for household use, when its quality is not above suspicion. For this purpose a large number of different filters have been devised, but many of them are so inefficient as to be worse than useless; for it frequently happens that the possession of a filter lulls the consumer into a state of false security. The best of these filters suitable for household use are those made of unglazed porcelain (Pasteur filters), or fine infusorial earth as used in the Berkefeld filter. Filters of this class are comparatively porous, thus permitting a fairly rapid flow. In this respect the Berkefeld is superior, as it filters considerably faster than the Pasteur. Both these filters deliver a wholly germ-free filtrate when they are first put in service, but unless they receive close attention, they sooner or later lose this property. The pore spaces in filters of this class are not smaller than the bacteria that ordinarily abound in the raw water, hence the removal of these organisms is not purely mechanical.

"There seems to exist a certain attraction between the bacteria and the particles composing the filter, so that the former are prevented from being forced through the pores. This attractive property varies with different materials. Guinochet states that the pores in the micro-membranes of the asbestos filter made by Breyer are smaller than in the Pasteur filter, and yet bacteria pass these quite readily. As additional water is passed through these filters, the pore spaces become reduced in size, owing to the accumulation of organic or other matter, until finally a living pellicle or membrane is formed on the outer filtering surface. This results in a diminished flow of the effluent. The bacteria which abound in this slimy pellicle are not destroyed, and if the temperature is favorable, they begin to grow and force their way through the pores of the filter, and so appear in the filtrate." Filters of this class, therefore, retain their germ-proof qualities for periods that are in a measure inversely proportional to the temperature of the water. Generally speaking, these filters should be cleaned and sterilized in boiling water, or in steam under pressure, once a week in order to kill out the germ life that has found lodgment in the pores. In this way, not only is the sterility of the filtrate maintained, but the yield of filtered water is increased.

Other types of household filters, such as those constructed of porous stone, charcoal, or asbestos, have been on the market for many years. Judged from the popular standpoint of purity, which is generally the production of a clear water, many of the filters would be regarded as quite satisfactory, but as a means of removing germ-life, they possess for the most part, but little merit.

STERILIZATION AND DISTILLATION.

There are no pathogenic bacteria liable to be distributed by the way of the water supply that are able to withstand the influence of boiling water for a period exceeding 15 to 20 minutes.

The developed bacteria of cholera and typhoid succumb ordinarily in 5 minutes or less, but the undeveloped germs seem to have greater viability, and it may require as much as 15 minutes to completely sterilize a water containing them. In case of sudden outbreaks of disease or temporary disturbance of installed water supplies, this method can always be relied upon with perfect safety. There are several types of steriliz-

ers, such as the Dessauer sterilizer, the Siemen's apparatus, Wachensch, and others, that have been placed on the market, and are adapted to individual use; also an apparatus which is designed for the treatment of large quantities that would be of service in case of epidemics. Boiling does not, however, render potable a water containing large amounts of organic matter, although it may destroy the disease germs that may be therein. By distillation a water can be obtained free from dissolved matter, as well as bacteria. The United States navy is probably the most extensive user of distilled water, this being practically the only supply on all its vessels. In a recent test of a "tripple-effect" evaporator at the Dry Tortugas, Fla., a net distillation of 13.98 pounds of water per pound of coal was obtained.

Objection is often raised against the use of distilled water for the reason that it contains no salts in solution, and, hence, exerts a powerful osmotic effect on animal cells by withdrawing the water from them, but its use has not been sufficiently extensive to warrant definite conclusions. Distilled water is rendered more palatable by aeration and the introduction of a small quantity of salt.

CHEMICAL PURIFICATION.

There are a considerable number of chemical substances which may be added to water in order to purify it by carrying down the suspended matter, as well as the bacteria, by sedimentation. Such a process of purification is to be seen in the addition of alum, sulphate of iron, and calcium carbonate to water. In addition to these methods, a large number of different systems have been devised, the effective principle of which rests upon the germ-destroying action of some chemical substance, which is later rendered innocuous in some other way. These methods, as yet, have had only limited application, but they seem to offer rational and practicable means of disinfecting water. Among them, and apparently the most successful, has been the use of ozone, electrolytically generated, and passed through the water. Traube's method consists of the addition of chlorinated lime or bleaching powder. By virtue of the active chlorine which it contains, it will destroy all bacteria in a few hours, even in extremely dilute solutions. The excess of the chlorinated lime may be neutralized by the addition of sodium sulphite, or calcium bisulphate. Water so treated is perfectly harmless, and does not have its taste or appearance

impaired; in fact, remains unchanged, except for a slight increase in hardness.

Peroxide of Hydrogen.—This disinfecting agent can also be used in the sterilization of water. In solutions of 1: 10,000, the cholera organism is killed in five minutes; the typhoid bacillus in one day, in solutions of double this strength. In proportions of 1: 1,000, water is rendered practically germ-free within 24 hours, and these proportions do not affect the taste. A number of other methods have been exploited from time to time, that involve the use of other chemicals, but no attempts on a large scale have been made to utilize them in sterilizing drinking water.

For general domestic use, no water requiring treatment is to be recommended, first, because of the expense involved in securing the required purification, and, secondly, because of the danger through carelessness or neglect of not being able at all times to maintain a proper standard of purification. The capitalized cost of maintaining a purification system will generally more than suffice to provide a supply of wholesome water.

Where hard water alone can be obtained, it can be softened, if temporarily hard, by boiling, when it forms a compact sediment; also, by adding carbonate of soda, which combines with the carbonate of lime in the water, and bicarbonate of soda and carbonate of lime result. The former remains in the solution, but does not render the water hard, and the latter is precipitated as a fine powder. By the addition of lime water (a solution of freshly-burned lime) to a temporarily hard water, the carbonates of lime or magnesia are reduced to insoluble mono-carbonates, which form a fine precipitate. This last method is the least expensive of the three. Permanent hardness can be removed by adding carbonate of soda, which, uniting with the sulphate of lime, or magnesia, forms an insoluble carbonate of these bases, together with sulphate of soda, which remains in solution, but does not harden the water. When water is both temporarily and permanently hard, a mixture of lime and carbonate of soda generally gives the best results.

Having procured a satisfactory supply of water for domestic use, it is necessary that such constructive measures shall be taken as will enable the water to be transported from its source to the place of utilization without impairing its quality, and of storing it in sufficient quantities for all ordinary uses or emergencies. The methods, and apparatus employed to secure these

results, are varied and extensive, but the limitations of our theme will not permit of their consideration at this time.

Authorities freely quoted: Professors Turneaure, Powell, Massachusetts State Board of Health Reports; American Water-works Association, Reports.

DISCUSSION.

Dr. Moody: Mr. President, and gentlemen: What I have to say about the paper is not of any startling importance. There are two points that tempted me to rise. One is the thoroughness, the perfect exposition, of the water question as made by the author. I believe, Mr. President, and gentlemen, that hereafter, when any one of us wants to be posted upon any matter connected with potable waters, we will find no more convenient and correct statement of the question than is to be found in the copy of our Transactions of this Association for 1904. I wish to express my appreciation of the paper in such words. There are some things the author said which will be useful to us in the practice of our profession. For instance, he told one thing, if I understood him correctly, and that was that there is very little danger from the contact of water with zinc; that lead is readily dissolved in pure water, the purer the water, the more rapidly is the lead dissolved; but I understood him to say, and, if not, I hope he will correct me in replying, that there is very little danger in using water collected and kept in zinc. That is a very important point, gentlemen. This country is getting more and more to realize the importance, not only in public capacities, but in our private homes, of a bountiful supply of water. Wind-mills, hot air engines, and hydraulic rams are used all over the country at our private homes, pumping up water. Now, the principal objection to such water supplies has been that the wooden tanks in which we were obliged to store water, would leak whenever the water got low; the hot sun would dry them out, leaving cracks through which the water would escape when pumped up again, thus giving continual trouble. I speak feelingly, for, I have been along there myself. When I went home this Spring, I found my wind-mill broken down for the second time in ten years, and I hardly knew how to live without it; but if we can store water in zinc tanks without injury, that method will be much cheaper and better; that is, in steel tanks, galvanized with zinc, which will neither rust, nor shrink, nor leak; and which, if I understood correctly, will be perfectly safe reservoirs for potable water. That is the prac-

tical point. He spoke, also, of the extent to which running water purifies itself. I suppose most of you gentlemen noticed in the public prints about two years ago, accounts of the contest that occurred between St. Louis and Chicago in regard to allowing the contents of the sewerage canal from the latter place to run into the Mississippi River above St. Louis, thereby polluting their drinking water. Chemists, employed by the different sides, found different results. The conclusion was that, even when water runs over several miles, I have forgotten exactly how many, it was not purified from the sewerage of Chicago, so that, it is not safe to drink water that has been polluted, no matter how far away the pollution was introduced. He spoke of Nature's remedy for the purification of polluted water; sunlight, and exposure to the air. Now, gentlemen, several years ago a member of this body, who is present today, wrote a very exhaustive history of an outbreak of typhoid fever which occurred in his neighborhood. Dr. Cochran, then State Health Officer, now deceased, requested me to visit the locality and look over the ground with him. We went over the whole history of the outbreak, which I am not going to repeat, but there is one point to which I wish to call attention: After a sluggish little stream of polluted water, flowing not more than five gallons a minute, had run a half mile, and then across a road, and had spread out over forty acres of land, in a low, swampy place, those who drank from it were poisoned with typhoid fever. Now, if the sunlight could purify any water, it should have purified that; yet, so deadly was that water when it escaped from that place that it polluted the edge of the larger stream into which it flowed. On the side of the river into which this little stream ran, nearly two miles below its entrance, there was moored a house-boat, with a large family on board. This family took typhoid fever from this source, there being no other possible source under Heaven from which they could have taken the disease. I wish to mention this to you, gentlemen, as a practical fact, recorded and demonstrated, showing that we cannot depend upon sunlight purifying water, no matter how widely spread out the water may be, and how long it may be exposed to the sunlight. Another source was mentioned as being most likely safe; namely, mountain springs. Now, gentlemen, sometimes facts seem to contradict set theories; I have been acquainted with instances which seem to contradict that assertion. If there are gentlemen in the hall who live in mountainous districts, or at such elevations that the water sources would be characterized as mountain springs, I

will ask them if they have not known repeated instances of typhoid fever being scattered through families on these mountain tops? I have seen people die with typhoid fever without a case having been anywhere in their neighborhood. Whence it comes, I do not know. I merely mention this fact because the author of the paper spoke of those sources as probably the safest from which we could draw our potable water. He spoke also, of the value of various kinds of filtering plants. As a householder, I have had a good deal of experience with filtering plants, and I venture to assert that the experience of every gentleman in this room who has tried the same experiment will coincide with mine. Every filter that I have used was temporarily satisfactory. The water could be drawn through the filter in warm weather, and, if allowed to stand in a receptacle, like a pitcher, over night, it would have a disagreeable odor. After that filter had been used a few weeks, in washing it and forcing the water backwards and forwards through it, the water that came from it, if allowed to stand for twenty-four hours, in a warm place, would have a disagreeable odor; consequently, I have come to this conclusion: I know of but one way for purifying impure water so as to render it safe for use, and that is, to boil it thoroughly for fifteen or twenty minutes, then cool it, and, in order to make it agreeable to the taste, shake it so the air may be mixed with it. One of the elements of water is oxygen. Without water, human life can be sustained no longer than six days; while, without food, men will live forty days and nights, the water being the more important. The important offices which water executes, are, first, its transportation facilities; secondly, its ability to carry oxygen. When you boil water, you drive off all the contained air, but by merely churning it up, shaking it up in a two or three-quart bottle long enough to get bubbles in it, you restore the air which you have driven off, and you restore its palatability, and its pleasant taste. I know of no other means that I would implicity rely upon for purifying impure water.

Dr. Sholl: The Medical Association of the State of Alabama now has before it, a man who has lived on boiled water for many years, and I concur in the positions taken by Dr. Moody. My object in rising is to state some facts that have come to my knowledge as Chairman of the Committee of Health of Jefferson County. In receiving reports for many years, I was convinced that our death rate from typhoid fever was quite too high. Coöperating with our Health Officer, and with the

Committee of Health, the matter was referred to the County Medical Society, and it passed into the hands of the Mayor and Aldermen of the city of Birmingham. Proceedings were instituted by which the Birmingham Water Works Company was compelled, under penalty, to have, by a certain time, a system of filtration completed in order to furnish pure water. They complied with this request, at an expenditure of two hundred thousand dollars; hence, for the first time in many years, the citizens of Birmingham are drinking water as pure as can be made by the modern system of filtration. I agree with Dr. Moody in the statement that there is no water, no matter how well it may be filtered, that is absolutely safe, but when I consider the fact that in Hamburg, and Bremen, the death rate, having run from 80 to 120, has been reduced from 2 to 8, to one hundred thousand per annum by a process of filtering, I know there is some ground for the benefit derived. I wish to give my hearty approval on this subject, and call the attention of every physician to the importance of making a thorough study of this paper, when it comes to us in print.

Dr. Sanders: I have listened to this paper with a great deal of interest. It discusses a subject of supreme importance, namely, drinking-water for cities and towns not supplied with water works, and for country homes. Whilst I have not been able to devote to this subject the study its importance demands, yet, I have given it considerable thought, and, realizing its importance, would naturally listen with keen interest to a discussion of it by a gentleman, such as the author of the paper, eminently qualified, both by theoretical and practical study, to speak with authority.

When a town or city arrives at a size such as to justify the construction of water works, it is supposed that a competent engineer would be employed to see that the water is drawn from the best source within reach, and that the works are constructed in accordance with sound sanitary principles,—hence that phase of the question does not properly belong to the theme.

The subject of drinking-water for cities and towns not supplied with water works, and for country homes, has not received the attention it deserves; therefore, my anxiety to have it thoroughly presented to, and discussed by, this Association.

Such study as I have been able to give this subject has convinced me that there is but one way of supplying such places with absolutely pure water, and that is to have rain water conducted from clean roofs—preferably slate ones—into properly constructed underground cisterns. The author of the paper

called attention to the fact that the first rain that falls, especially after a dry time, brings down with it, from the air, dust and fine matter of various kinds,—hence the wisdom of not collecting the first water that falls, in order that both the air and the roof may be cleansed. Then, the cistern should be built in strict accord with the best sanitary principles, that is, solidly walled up with glazed brick, if possible, laid in the best quality of cement, and securely protected by a cover. When I came to Mobile to reside, over-ground cisterns or tanks, in which rain water was collected from the roofs of houses for domestic and drinking purposes, were common. The pipes which led from the roofs into these cisterns were, so far as I could tell, fixed, hence, whenever it rained, no matter how dusty the roof, all of the dust was carried into, and remained in, the cistern, unless, perchance, the rain was copious enough to overflow the cistern, and thus carry off much of the dust. Often, of course, the reverse was the case. A cistern, consisting of an old iron boiler, set up on end, in the yard contiguous to my office, was one of the kind described, that is, had a fixed pipe leading into it from the roof.

I protested against the conditions, and insisted that they should be remedied. I met with fierce opposition to any interference with the cistern on the part of some persons, and reasonably intelligent ones, too, occupying offices and rooms in the same building. Finally, I carried my point and had the cistern emptied and cleaned out. You can easily imagine what a mass of foul mud and stuff was brought out of the bottom of that cistern, down where the faucet entered through which water was drawn for drinking, as well as other, purposes.

After the cistern had been thoroughly cleaned, I had the pipe leading into it so arranged as that it could be turned into or out of the cistern at will. Proper care was used thereafter in seeing that water was not allowed to run into the cistern until the roof had been thoroughly washed off by the rain. Naturally, great improvement in the quality of the water resulted. Some months, or possibly a year or two, after the cistern had received the attention described, I, happening to have the honor of being President of The Mobile Medical Society, appointed, on one occasion, for discussion, "The Water Supply of Mobile," with Dr. Mohr, our chemist, for leader. The leader took much interest in the subject, and procured specimens of drinking-water from practically all of the various sources of supply in Mobile; that is, from the then existing water works, from drove the seep wells, and from overground cisterns, including the one of which I have especially spoken. Now comes the

sequel. The water obtained from the cistern in question, proved to be remarkably pure, perhaps the purest of all the specimens examined; thus apparently justifying the proposition I announced in the beginning of my remarks. Did I reside in a country town, or in the country, I think I would adopt the method briefly described for obtaining and storing drinking-water. As was maintained by the leader, it might be well to add some salts to water collected in the way described, since it has been alleged that to drink rain water exclusively, increases the liability to certain diseases, cancer being one of them. The addition of such salts, and in such percentages, as are usually found in pure and wholesome drinking waters, would be easy.

Before taking my seat, I desire to cordially thank the leader for his comprehensive paper, and to express the hope that we may, on future occasions, have the benefit of his knowledge and skill as an engineer when dealing with broad and important sanitary questions that demand such knowledge. I regret, however, that he did not devote more of his paper to the discussion of the methods of obtaining, storing, and protecting drinking water for towns unprovided with water works, and for country homes.

Prof. Kay: I realized, when I was asked to write a paper for this body, how very large the subject was, and how impossible it would be for me to take up and discuss the subject in detail. One or two members of the Association, after I read the paper, said that they felt a little disappointed in my not having told them more about how to get this pure water. The subject was too broad, and my difficulty was in keeping it down within reasonable limits. Now, in reference to the remark of Dr. Moody, as to the use of zinc, I will say that zinc is usually found in the market in the form of galvanized iron, which is a fairly safe material to use. The only difficulty in using zinc tanks is in soldering and keeping them so well galvanized that there is no chance for the iron to rust. Unless the tank is made in a proper manner, there is great danger that it will sooner or later corrode at the joints, and become useless. I do not know that there is anything further for me to say on this subject. I certainly appreciate the honor that has been conferred upon me in asking me to read the paper. The constructive details are evidently not a part of the paper. I could, perhaps, give you many suggestions in reference to the storage and transportation of water so as to protect it from harm. The great difficulty, which I think I pointed out in my paper, is in conserving the purity of the water.

REPORT OF AN OBSCURE CASE OF PYO-NEPHROSIS SIMULATING TYPHOID FEVER.

By Mack Rogers, M. D., of Birmingham.
Member of The Medical Association of the State of Alabama.

On September the 3d, 1903, a young man, aged 19, called at my office complaining of fever and general aching, without special pain being located anywhere.

He stated that the fever came on the night before, previous to which time he had been in perfect health.

He seemed the picture of young manhood, in good flesh and vigorous, having had no previous trouble of any kind.

His fever was 103½° F., pulse 100, tongue typically typhoid, his bowels were "regular" as he expressed it, and his urine "all right, except that it was very strong."

A careful examination revealed nothing farther than a slight tenderness in the right iliac fossa.

When he passed his urine in the specimen glass I observed that it was highly colored, nothing more. I made a diagnosis of typhoid, independent of urinalysis, but fortunately did not commit myself to the patient, yet, I felt pretty confident as to the correctness of this opinion.

I ordered him to bed, and prescribed accordingly. After he had left the office, I made a chemical analysis of the urine and it behaved so strangely that I sent it to a specialist for further examination. The specialist reported the presence of blood, pus, etc., and thought the specimen strongly suggested nephritic calculi, but insisted on the privilege of examining another specimen.

This I furnished the next day; after examining which, he gave the same opinion as the day before.

The patient was rapidly developing a typically typhoid condition, and I reached the opinion that the case was one of pyonephrosis, probably due to renal calculus, complicated by typhoid.

On the night of September 16th he had two or three rigors and a profuse sweat, thus presenting unmistakable signs of general sepsis.

A consultation was held the following morning, when it was agreed that we had a typhoid complicating a pyonephrosis, and an operation was advised. This was refused. The next morning a double consultation was held, and when the unanimous opinion was reached that operation held out the only hope, the patient yielded his consent. When placed on the table in the afternoon for operation, his condition was that of shock, such as is experienced by perforation or hemorrhage.

An oblique incision was made and when the lumbar fascia was reached it was found bulging; and, being incised, a great quantity of urine gushed out through the wound. This had burrowed through and around the adipose capsule until it reached this barrier. It then became evident that perforation of either the kidney or ureter had occurred. As soon as the kidney could be freed it was readily observed that two perforations in the substance of the kidney were responsible for all of the trouble. The general contour and consistence of the organ were questionable, hence I made an incision to search for a stone, but, to my astonishment, found none, but I did find a sacculated condition, which you will see by the specimen I pass around for inspection. I immediately determined to do a nephrectomy, and removed the kidney as rapidly as possible. Owing to the patient's condition I did not explore the ureter, but hastily closed the wound around two large drainage tubes.

The patient had a stormy voyage coming out from the shock, but after forty-eight hours nature asserted herself and the typhoid condition passed off like magic and he made a rapid and complete recovery.

The remarkable points in this case re:

(1) That this kidney should degenerate to such an extent without giving rise to any signs or symptoms up to the time of perforation.

(2) That the perforation itself is unique to me, and especially in the absence of stone—due to erosion and tension.

(3) That the patient is now in good flesh, enjoying perfect health and secreting approximately the normal amount of healthy urine.

(4) The close resemblance of the symptoms of perforation to those of a typhoid condition.

The deductions are:

(1) That we should employ all the means at our command in making our diagnosis.

(2) That in spite of our very best efforts, we are not always able to be positive of our diagnosis.

(3) That where the diagnosis is obscure, we should resort to the exploratory puncture or incision.

DISCUSSION.

Dr. Coulbourne: "I am sorry that a microscopic examination was not made of this case; it would clear up the diagnosis fully. I am of the opinion, however, owing to the comparative suddenness of the case, that possibly the patient suffered with an obstruction of the urine; perhaps an obstruction due to a stone prevented the passage of urine, and rupture took place in the kidney."

Dr. Rogers: "The question was asked me about pus. There was no apparent pus that came out through the incision; it appeared to be urine. While there was some pus in it, as I stated before, we could not discover it in the urine that came out through the incision."

OTOLITHS AND THEIR FUNCTION.

G. HARTUNG, M. D., PH .G., OF CULLMAN.

Member of The Medical Association of the State of Alabama.

We are accustomed to speak of five special senses with which the human race is gifted. Scientific researches have now advanced far enough to accept a sixth sense, the sense of knowledge of position and equilibrium.

We find in the inner ear of men interesting by-organs. Out of the vestibulum, the middle cavity of the labyrinth, protrude three semicircular canals, and in their interior are found little stones—limecrystals—which are imbedded in a fibro-mucous

tissue and are lying over most delicate peripheral nerves. Each ear has two groups of these minute stones and they are called otoliths.

It would lead us too far to go into the details about the semicircular canals, as this would involve a detailed description of the construction of the inner ear, which is probably familiar to every physician. The otoliths are not only found in the mammalia, but even down to the lowest animal organisms that are capable of voluntary movements. The birds and amphibia own three groups of them on each side. They are also present in the fish, either in groups, as with us, or as single, solid, bonelike pieces. The animalia articulata possess them also, and a beautiful development of them is found in the mollusca and medusæ. It is probable that we may detect this apparatus even in still lower organisms, where they have not been found as yet. The necessity for otoliths, that are lying in a little pocket, which is supplied with a nerve, seems to be widespread in nature. Sometimes this craving is satisfied in a peculiar way. In the ear pockets of the crustacea have been found little stones, that were in every respect like common sandgrains, and it was supposed that the crab filled his earpocket with common sand. Experiments made proved it to be so. Direct observation did not succeed in seeing the animal fill the ear with sand, but the following experiment, which was made, is sufficient proof of it. The earpockets of the crustacea are inverted appendices of the outside shell, and they are renewed during the moulting season, together with the shell. Thereby the membrane of the pocket is drawn outside as a whole, together with the earstones. After moulting, the crab has no stones in his ear. If the animal is now placed in a vessel with sand, then there can soon be discovered a number of sandgrains, but if the crab is brought into a vessel in which artificial crystals of some chemical preparation cover the bottom, we will soon find these crystals in his earpockets. This is a proof that the otoliths are not generated by the crab itself, but are taken up from the outside. Formerly the inner ear was considered to be simply the organ of hearing, and it was thought that every part in it was taking a share in the perception of sound. Consequently, it was believed that the spot where otoliths are found in animals, was always an organ of hearing. But there were difficulties encountered in trying to support this view. In the first place, it was not possible to ascribe to those appendant apparatuses a fixed participation in

the process of hearing which could be explained by physical laws; secondly, there were found in many animals—like flies, crustacea, etc.,—distinct organs of hearing, that had nothing to do with the otoliths; and finally, animals were found which owned well-developed otoliths, but had not the slightest trace of the sense of hearing.

It was at this stage of the researches that Vonder Goltz, supported by experiments, advanced the opinion that the semi-circular canals are not intended to assist in hearing, but are for the purpose of assisting in ascertaining one's position. The details of this theory are still under discussion, but this much may be accepted as settled beyond doubt, that the so-called ear of the higher animals is not only an organ for hearing purposes, but that its most subtle nerve apparatuses have a second, not less important, function: they give us information about the equilibrium, the position, and the movements of the body, especially the head.

The theory of that kind of vertigo which is caused by continued rotation of the body may be mentioned here. If a person is gradually put in a rotating movement, he will feel the movement, even if he closes his eyes, but after he is continued in even rotation for a while, he has no sensation of it. If he is now suddenly stopped, he will feel giddy and will have a sensation as if the soil under him were turning round. The most probable explanation of these facts is this: The water, which fills the semi-circular canals, does not follow right away the movement of the body, but after a while it will commence rotating evenly with the body. If the body is suddenly arrested, then the water continues to flow for a while yet in the adopted direction. The person feels now, without knowing it, the movement of the water, and as the sensation of his muscles tells him that he is at rest, there develops a conflict between the announcement of the muscles and that of the head organs, which result in the disagreeable sensation of vertigo.

If we cut the auditory nerve of an animal, then the next sequel of this act will be stormy attacks of vertigo, rolling movements, turning of the head, and so forth. After a while the animal will get more quiet but will assume a peculiar position. A frog, for instance, will stretch his right legs out and will keep himself away from the level table on which he is lying, the left extremities he will draw to the body. His position is inclined, the right side more elevated than the left. The an-

imal assumes a position as if he was lying on an inclined plane; this means that the knowledge of position on horizontal ground is lost to him. Similar symptoms occur in people who suffer from disease of the ear, which exert a pressure on the vestibulum. They cause severe attacks of vertigo, due, no doubt, to the fact that pressure disturbs the organ of equilibrium.

Very instructive are observations made on deaf mutes. With some of them the whole inner ear is filled with incrustations, so that the apparatus for hearing, as well as that of equilibrium, is destroyed. In consequence, about one-third of the deaf mutes cannot be made dizzy at all. But they have also a disadvantage. Under ordinary circumstances people are informed about their position, not only by the organs of the head, but also by other different observations. Especially the weight of the body has effect on certain parts; for instance, on the feet and from the pressure of the body alone can we determine our position. But this ends, if we go under water, because there the sensation of weight becomes quite uncertain, inasmuch as the water bears against the whole lower surface of the body. However, a normal person knows without effort, after diving under water, in what position he is. Not so with the deaf mutes. For them, being under water, means a terrible experience. They do not know whether they are in a horizontal or in a vertical position; whether they swim to the surface or to the bottom. One of them said that, after lying at the bottom of a creek, two feet deep, he lost consciousness whether lying face upward or face downward. While he was crawling over the bottom of the little creek, he had the sensation of crawling up on an endless vertical wall. Many of these unfortunates tell the same story, if they tried to be under water. There is no doubt that they are entirely deficient in the organ which controls the sense of equilibrium and locality which is possessed by normally constructed men. To these latter, that organ tells instinctively in what position they are, while with the deaf mutes it is absent, and he has nothing to be guided by, if the ordinary sensations of gravity are removed. And this defect is another proof that in men the apparatus of equilibrium is intimately connected with the ear. Lately, attention has been called to the fact that the otoliths have an important function in this organ of equilibrium, because they are independent, heavy and hard corpuscles, whose pressure on the terminal nerve filaments differs according to the position of the animal. In many of them

their arrangement is so plain that hardly any doubt can prevail as to their function. In the cunophora, a genus of the mollusca, we find in a special small cavity a single otolith, which is suspended between four elastic flat columns, which are endowed with nerve filaments. If that animal has its normal position, then the otolith exerts an equal pressure on all the four surfaces, if the animal inclines to one side, then the otolith exerts its pressure on the column of that side. From this we see that the otolith chamber presents a minute pressure-meter, which the Creator has constructed after the same principle upon which we build our modern dynamometers and seismometers. If we new destroy the apparatus of this animal, then, it gets confused and executes irregular movements, for which there is no purpose. In higher animals we see analagous results. A frog, for instance, whose auditory nerve is severed, does not feel whether he is swimming on his belly or on his back. A healthy frog never swims on his back. If he arrives at the bottom on his back, he will remain in that position, because he has lost the consciousness of position, of upward and downward. If we derange the otoliths in a shark, then he will execute at once rolling movements that point to vertigo.

From the aforesaid, may be understood the universal presence of the otoliths. They are of inestimable value for the sense of the right position, and are not to be dispensed with, especially in animals that live in the water. In human beings they are enclosed, on account of their importance, in a most firm bony capsule in the head. In the lower animals they are found separate from the ear, because this organ is situated nearer the outside, and finally they are present even in animals that are entirely deficient of an auditory organ and of hearing.

THE IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT OF SUPPURATION OF THE MIDDLE EAR.

By C. A. Thigpen, M. D., of Montgomery.

Junior Counsellor of The Medical Association of the State of Alabama.

My experience in the practice of Otology, in association with practitioners of medicine, convinces me that I could not select a more suitable subject for your consideration than suppuration of the middle ear.

A glance at its anatomy, situated as it is in the temporal bone, bounded, above, by a thin plate of bone which forms the floor of the middle cranial fossa; below, by the jugular vein and carotid artery; internally, by the labarynth or internal ear; externally, by the drum membrane separating it from the external ear; communicating anteriorly through the opening of the Eustachian tube with the pharynx; posteriorly, with the mastoid cells impresses us with the great importance of its diseases, because of the pain and deafness which they occasion, and the dangerous complications through extension to the cranial cavity, and the grave constitutional disturbance through the absorption into the circulation of its infectious contents.

Suppuration of the middle ear is due directly to infection of bacteria through the Eustachian tube from the naso-pharynx; and, indirectly, through the lymphatics and blood vessels. The streptococci, staphyloccocci and pneumocci are most frequently the kinds of infections. Many children are born with tendencies which develop conditions conducive to middle ear infection and suppuration. Frequently when a child is brought to you with an ear trouble, you will discover, from its history, that its ancestors for generations back had the same disease. This "hereditary habit," so called, is not due to some unusual anatomy or physiology of the ear, but to some disease of the nose and throat, probably adenoid growths in the naso-pharynx, or

enlarged tonsils, which afford culture media for the development of bacteria. A child with any such family history should be subjected to careful examination, and if any such predisposing conditions are found, they should be corrected.

The exanthematous diseases are most frequently complicated by middle ear suppuration, and especially is this true of scarlet fever, and in this disease, it frequently gives no warning except elevated temperature.

Whenever a physician takes charge of a case of scarlet fever, it is his duty to use his head mirror and examine the ears daily. It is not an uncommon experience in a case of scarlet fever, seemingly mild, which has progressed favorably for several days, to have the temperature suddenly run up without any appreciable cause. To illustrate this, I will relate a case which I recently saw in consultation. A young child, aged eighteen months, had a mild attack of scarlet fever, with slight eruption. For several days the condition was all that could be desired, when suddenly there was a rise in temperature, with much restlessness, and I was asked to see the patient. Upon examination, I discovered suppuration of the right middle ear which, being drained, gave relief to the symptoms.

Taking cold, influenza, measles, and whooping cough, are frequently complicated by suppuration of the middle ear. While in these diseases it is not so severe and frequent as scarlet fever, it is to be expected, and the ears should be carefully and regularly examined. The deafness of typhoid fever is frequently due to suppuration of the middle ear. It comes on late in the disease, and is often unaccompanied by pain. With this complication, there is increased temperature, and should this occur in one ear only, it may escape notice until the attention of the physician is called to a discharge from the ear.

In syphilis and tuberculosis, the middle ear is sometimes affected from the naso-pharynx or through the lympathics and blood vessels, and the usual symptoms of pain are not so marked.

In the exhausting diseases of childhood, suppuration of the middle ear is one of the most frequent and fatal complications. In the last stages of pneumonia and bronchitis suppuration of the middle ear, one or both, is not infrequent, and is very often not recognized because there is frequently no pain, there being only increased temperature which tells us that there is something wrong.

In ileo-colitis of children, after prolonged illness, there sometimes develops a cerebral complication, which we have all seen, and this cerebral complication is frequently due to middle ear suppuration. Many fevers of childhood are no more than symptoms of middle ear suppuration which was not recognized until there was a discharge from the ear, or a mastoiditis, or a death from convulsions.

The case of a small boy who had high fever and headache for two weeks well illustrates the truth of the foregoing. His physician had vigorously tried all the antipyretics, purgatives, and quinine, but the patient grew worse. He having developed some photophobia and pain in his eyes, I was called in, and failing to find anything wrong there, I directed my attention to his ears. Upon examination, I found suppuration of the right middle ear. The drum membrane was incised, and a quantity of pus liberated; his symptoms improved for two or three days, when he grew worse, and developed symptoms of meningeal irritation. The mastoid was then opened and a large quantity of pus evacuated, and the patient got better and gradually recovered.

Another case of chills and fever which illustrates how often we overlook the dangerous complication of this disease, even when the patient has had a running ear off and on for many years. This was a young man aged twenty, who gave a history of chills and fever and headache to his family physician. All the anti-malarial remedies failed to relieve him, and one day he grew much worse and developed aphasia, with paralysis of the right arm. His physician asked me to see him, and, on examining his ear, I noticed an offensive discharge, and there was much tenderness over the mastoid and the entire side of his head. It was my opinion that he had grave cerebral complication of his old middle ear disease, and advised an operation. This was done; and on epening the mastoid, which was filled with pus, I discovered a fistulous communication with the middle cranial fossa. On enlarging this tract, I found an extradural collection of pus, which was removed. The dura was then incised and the temporo-sphenoidal lobe examined, and a large cerebral abcess was found, which was evacuated, and the man died two days later. A much simpler operation would have saved his life a few months, or even a few weeks, earlier.

So much for the obscure cases of middle ear disease. Fortunately, the great majority make their presence known in a

very pronounced way. The earliest symptom is pain. Sometimes deafness precedes this. There may, or may not be, a rise of temperature at the outset; most frequently there is. Sometimes the first symptom will be noises in the ear; and if the patient be a child, he will come and endeavor to describe what he hears. If he is too young to direct attention to his ear, you will notice he awakes at night with a scream, tossing his head from side to side. He may get easy in a little while, only to repeat his cries. If this pain continues and the constitutional symptoms become more marked, you may be sure there is suppuration of the middle ear. If there is simply pain without fever, there may be only an otalgia, or earache, which usually comes on at night and then disappears by morning. The appearance of the drum membrane, however, will decide its true nature.

It is not my purpose to weary you with a lengthy paper. I have only endeavored to enumerate a few facts with which we meet daily, and to illustrate them in a practical way; and before I close, I wish to say one word in the treatment of the disease. To treat it successfully, we must know how to diagnose it. The first requisite is a head mirror; and I wish to lay particular stress upon this most important aid in the diagnosis of diseases. It should be in the hands of every physician, and it should be systematically used in every case of illness. It will save much worry, and clear up many an obscure case, and decrease the percentage in our institutions for the deaf which are filled, in a measure, today, by children whose ear troubles were not recognized, and were neglected. In addition to the head mirror, we must have a set of ear specula.

The second requisite is some familiarity with the drum membrane, and how it looks in health. After a few examinations of people with healthy ears, a very good impression can be gained, and any pathological change in the middle ear cavity will alter its appearance, and can be easily recognized. The lustre will disappear, and a dull, congested membrane will take its place. If there is an exudation, the membrane will bulge outward; or, if there be much œdema around the rim of the canal, it may be concave. Whenever such an appearance presents itself, especially if there be earache, or headache, with fever, we are called upon to perform a little operation, the results of which are most gratifying. This is paracentesis, or incision of the drum membrane. It is the duty of every medical man to perform this simple, harmless operation; and if one

will picture in his mind the drum membrane as a circle and divide this into four quadrants, not the slightest difficulty will be experienced in its performance. The patient should be firmly held by an assistant, or anæsthetized. The external canal should be cleansed first with peroxide of hydrogen, then irrigated with carbolic or bichloride solution, and last sponged with a saturated solution of boric acid in alcohol.

Remembering the circle divided into four quadrants, a slender cataract knife, or a regular paracentesis knife, should be thrust through the drum membrane in the posterior-inferior quadrant, and carried onward until it comes in contact with the promontory or internal wall of the middle ear, and then swept downward to the rim of the canal. The knife should then be withdrawn and if there be much pus the canal should be gently irrigated with an anti-septic solution. If we recognize the disease in the early stage, the little operation will frequently abort it. The relief following this procedure is marvelous, and its performance in time will save much suffering and distress.

DISCUSSION.

Dr. Green (Anniston): "I have been delighted with the excellent paper of Dr. Thigpen, and if I should be called upon to prepare a paper, I would consider a paper like this one ideal. The doctor has left out a great many things that are usually included in papers of this kind. I have recently had a few cases along the line of those the doctor has just suggested. We have had a good many papers along this same line, possibly not so clear as the one just read, but it seems to me that they have been of very little value to the practitioners of this State, and I trust that the reading of this paper may result in more rational treatment at the hands of the general practitioners than the majority of papers receive. I do not want you to misunderstand me, and think I am making a general charge against the medical profession. I am persuaded that there is no disease more vital than these diseases of the middle ear. There is no excuse for a practitioner, in this day of enlightenment, to continue to encourage suppuration and destruction of the drum membrane by the continued use of opium. There are a great many who use it. By doing this, he prolongs the period of suffering; he risks the impairment if not the total loss of hearing, and he risks the patient's life. I do not say that

we ought to send cases of this kind to a specialist; we can make a diagnosis and relieve these cases. These cases of neglect are not confined to rural districts. A few weeks ago I saw a woman from this place, and we look on Mobile as having doctors on a high plane; I do not know the name of the physician who had this case under treatment; she made a general charge against the medical profession, and said that they neglected these cases. She said: 'My sister lives in Mobile, and only a week ago she had an acute suppuration of the middle ear; for ten days she suffered, and the doctor who had the case, treated it for common ear-ache, she went to a specialist and he relieved her pain and restored part of her hearing." Now, I know our medical men do not treat these cases in this way, but there are some that do. I have been practicing medicine for about thirteen years, and have heard other papers like this, still the doctors do the same thing.

"I do not think that I could say anything that would add to the scientific value of the paper; but I hope, when this paper is printed, the doctors will study it with care and quit treating these cases as simple ear-ache. There is no danger in making an incision, if properly made; an incision will heal up, but an old suppuration will not. I do not want to say anything more except that I desire the doctors in this State not to subject the general medical profession to undue censure by neglecting these cases."

Dr. Harper: "This is a good paper, and I am glad that a specialist can get off of his high plane and come down to the level of ordinary mortals. Unfortunately, that is a very hard thing for a doctor to do. He thinks these things are so common-place that the other doctors will not appreciate it. The result is that he prepares a paper that only men in his class can appreciate. The general practitioner is the man who treats these cases first. You have a case of measles and it runs into stages that you cannot account for. In a great many instances, you will find the trouble in the middle ear. Again, there is a very good rule that will often tell you where the trouble is. When you have a child that is constantly crying, crying all the time, whether it is nursed or walked about, or tried to be amused, I think of one or two things—either that the child is hungry, or that it is suffering from ear trouble. If it is hungry, it will stop crying when it is nursed, but if the trouble is

in the ear, the child will not stop crying. The ears of such children should invariably be examined. When they are suffering from sources you cannot account for, I believe we should examine the ear, and see if the trouble is there."

Dr. Sutton: "I appreciate the importance of this subject, and I am very sorry that there are not more specialists here that could give us scientific disquisitions on the subject. I never did appreciate the importance of it so much until it came home to me, and I want to give the case of my own littlre boy, who is in the hospital now. He began about two months ago with a large abscess in the middle of his nose. I would not venture to lance it myself, and I sent him to Selma, where he was kept in bed for several days. The little fellow never got well; he had one abscess after another, I believe four or five; then he began to have sore throat, and then to have ear-ache, which was relieved very readily. About a week after that, he began to have ear-ache in his left ear. After that second spell, I wanted to send him to a specialist, but our baby was sick at that time, a little fellow six years old, and as soon as the baby got better, the very first time my wife could leave, I sent him to a specialist to be examined thoroughly. The doctor told me that he found some inflammation. He found a little temperature; he must have been having temperature all along and I did not discover it. I thought sure he would get all right, but his ear kept running. It went on that way for about a week, and the doctor told me that he would have to undergo an operation. He suffered very little, and was running about and apparently improving right along. It is a terrible thing to throw a boy down after he has gotten up, and I could hardly consent to it, but after he related so many cases, I thought it too big a responsibility for us to take to bring him home in that condition, so I consented. The temperature was only 99½, no suffering with the ear at all, only a slight discharge. The operation was performed, and he is improving now, and I hope he will be all right, and I feel very thankful that he has gone through it. I want to say that if Dr. Kirkpatrick were here, he would be glad to discuss this paper, as he has four others besides my little boy. I wish I could emphasize this matter more than I can. I am not prepared at all on the subject."

Dr. Thigpen: "I appreciate the discussion of the gentlemen who have spoken, and I agree with what they say. My friend, Dr. Harper, said that a specialist wants to get down to the low plane of the practitioner. This was not the intent of the paper. It was to lift the general practitioner up to the high plane of the specialist, and as Dr. Harper has gone on and pictured a case of measles, that is what I want to bring to the mind of the general practitioner. I did not, however, attempt to go into the many intricate complications of middle ear diseases. We have discarded the old name, and now do an operation known as incision of the drum membrane. I merely called attention to the harmless operation. Any one can perform it by simply piercing the drum membrane. Let us consider this drum membrane as divided into four quadrants. Now, by making the incision in the lower outer quadrant, allowing the knife to cut well out to the external wall, no damage is done to any structures. It is harmless, it is free from danger. We do not want it ever to become necessary to perform mastoid operations for complications of suppuration of the middle ear, and when I hear of a great number of cases of mastoiditis being reported, I think at once there has been some neglect or carelessness in the diagnosis of the primary disease from which it originates. This point I am glad they mentioned as being the sole intent and purpose of this paper; it was intended for the general practitioner. I am sorry more of them did not discuss it, and that more specialists are not present, for they lead you on into things that you do not know anything about."

INTRACTABLE CASES OF DYSPEPSIA, INDICATIVE OF CHRONIC LESIONS OF STOMACH, CURABLE BY OPERATION.

By William D. Haggard, M. D., of Nashville, Tenn.

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Maurice Richardson, in his Presidential Address before the last meeing of the American Surgical Association, on the Contributions of Surgery to Internal Medicine, says: "No more brilliant field of reparative surgery than that of gastric ulcer could be mentioned to illustrate what surgery has done in solving one of the most obstinate and unfruitful problems of internal medicine—gastric ulcer—the symptoms of which, so frequently attributed to functional disorders of the stomach, are now known to be caused entirely by mechanical changes, and are relieved so completely and permanently by surgical measures of simplicity and safety."

Ulcer of the stomach, with its complications and sequences, is the most constant non-malignant lesion answerable for intractable dyspepsia.

Moynihan, the great English authority upon stomach surgery, says:

"It has been the immemorial custom to look upon dyspepsia as due chiefly, if not solely, to deficiency in the quantity or quality of the gastric juice, to some lack of adequate power in the stomach as a secreting organ, but dyspepsia of the intractable, constantly recurring, form is more often a matter of physics than chemistry."

This utterance crystallized the recently acquired surgical conception of dyspepsia and, in the correlated cure which surgery affords, adds a most welcome and important contribution to internal medicine. Intractable dyspepsia has ever been among the opprobia of therapeusis and now to have a simple, safe, radical cure for its most inveterate forms constitutes about the most noteworthy addition of the last decade to the resources of our art.

In the light of recent experience it appears that many of our cases of obstinate dyspepsia are due to ravages of ulcer, or the relics which it leaves behind, and that the condition has to be appreciated to be diagnosed. The only way to recognize any important, if somewhat less frequent, pathologic state is to be constantly on the alert for it. It was so with extra-uterine pregnancy, with appendicitis, and with gall-stones. Stomach lesions, if placed under the same scrutiny, will be as easily and frequently diagnosed. These conditions entail great suffering and incapacity, and as Murphy says, they are up to this hour grossly neglected by the physician and the surgeon, with few exceptions.

Ulcer of the stomach occurs in from 2 per cent. to 5 per cent. of the population. (Ewald) Fridler, in 2,200 autopsies, observed fresh or healed ulcers in 20 per cent. of women and 1½ per cent. of men. These ulcers and scars were frequently the seat of carcinomatous degeneration. Hauser believes cancer develops in 6 per cent. of ulcers. Graham found a history of ulcer from 1 to 15 years in 16 out of 18 patients operated upon for cancer. Mausell Moullin says, when an ulcer once becomes chronic a cure in the full sense of the word is seldom attained by medical treatment.

Their acute course is beset by the dangers of hemorrhage and perforation. Hemorrhage causes death in from 3½ to 11 per cent. (Muller) of all cases. Perforation occurs in from 6.5 per cent. (Dreschfield) to 18 per cent. (Habershon) of all cases. The fatality of this catastrophe is well nigh 100 per cent.

It is, however, to the chronic ulcer and its complications that this communication has especial reference. The chronic patients are not so liable to these immediate dangers, but the constant pain is most distressing, and emaciation from chronic starvation precludes the possibility of work. The dyspeptic is utterly wretched. He cannot forget his ailment; his thoughts are centered upon his stomach, his diet, and his beverages; his

symptoms occupy his whole attention, and he has none to devote to the ordinary affairs of life. He is a pessimist and a misanthrope.

It has been said that the world might have had a different recollection of the temper of Mr. Thomas Carlisle had he had the benefits of a gastro-enterostomy.

Mayo Robson enumerates the following complications of gastric ulcer:

1. Local peritonitis, or peri-gastritis, ending in adhesions.
2. Local peritonitis, ending in suppuration and a localized abscess.
3. Sub-phrenic abscess.
4. Abscess of liver, pancreas, or spleen.
5. Fistula between the stomach or pylorus and adjoining organs, or even with the surface of the body.
6. Acute perforation of the stomach wall.
7. General peritonitis.
8. Hæmatemesis and melanæmia.
9. Dilatation of the stomach.
10. Tumor of stomach or pylorus.
11. Cicatricial stenosis of pylorus.
12. Hour-glass stomach.
13. Spasm of pylorus, producing intermittent narrowing (Reichmann's disease).
14. Atonic motor deficiency.
15. Severe gastralgia.
16. Persistent vomiting.
17. Tetany.
18. Acute or chronic pancreatitis.
19. Profound anemia resembling the pernicious form.
20. Pressure on, or stricture of, the bile ducts, with jaundice.
21. Catarrh of gall-bladder from adhesions, producing attacks like those of cholelithiasis.
22. Great loss of flesh and strength, ending in phthisis.
23. Cancer, secondary to ulcer—"ulcus carcinomatosum."

Seventy-five per cent. of chronic ulcers are located in the pyloric region. This fact has important bearing on the later development of pyloric obstruction, and upon the surgical correction of the symptoms arising therefrom. While the acute ulcer occurs most frequently in young women, who are anæmic

and under thirty, the chronic ulcer occurs oftenest in men, and affects those in middle and advanced life. The ratio between the two sexes being 72 per cent. in males as against 28 per cent. in females, (Seymour Taylor.)

The pain below the ensiform cartilage in a chlorotic female under thirty years of age, increased upon taking food, and reaching its maximum intensity about two hours after, and relieved by vomiting, which contains an excess of HCL., is significant of ulcer. If there is hæmatemesis, which occurs in 64 per cent. of cases, (Leube) and melanæmia, the diagnosis is practically certain. There is often a fixed finger point tenderness with thickened ulcer, or one that has contracted adhesions. These cases do not require the stomach tube for diagnosis.

In the chronic cases pain and vomiting are usually present, with tenderness on pressure over the pylorus, between the costal arch and ensiform. Vomitus of a fetid character and in large quantities is frequent, and often contains mucus and sometimes material like coffee-grounds. This is simply indicative of the presence of blood in the stomach, and other means must be resorted to to discriminate ulcer from cancer. These symptoms are often in abeyance for weeks and even years together. The presence of the ulcer may be unexpectedly declared by the occasional advent of serious hemorrhage or perforation.

Most of the symptoms, however, are from some of the complications; the contraction of a pyloric ulcer in healing, causing obstruction, with dilated stomach, or the presence of perigastric adhesions; and where dilatation is present, the prolonged retention of food is evident by the ejection of food in the morning that was taken the night before. Loss of weight is rather constant and may be extreme. Pyloric tumor from induration or adhesions may be present, and suggest the tumor of malignancy. The induration may be so suspicious in its mimicry of cancer that it is not extravagant to say that many cases of chronic ulcer have been mistaken for cancer and allowed to die that might have been saved by accurate diagnosis and operation. Chronic ulcer is usually smooth; cancer, nodulated, rough, and uneven.

Next to the pylorus, the posterior wall is the most frequent site for ulcer, and in this location the pain, instead of being in front, is under the left scapula or at the head of the ninth and tenth ribs. Lying on the back increases the pain, which is renewed by standing, leaning forward, or lying on the abdomen.

The most characteristic feaure of gastric ulcer is its persistence and recurrence. In spite of the most careful dietary, supervision, rest, and even rectal alimentation, as soon as solid diet is resumed the former symptoms of pain, vomiting, and bleeding again assert themselves. This may be repeated over and over again. The probable explanation is that the ulcer, which often attains considerable size, may form attachments to adjacent structures, especially, if, as is very frequent, it happens to be upon the posterior wall and adherent to the pancreas. It may be likened to an old leg ulcer that has become attached to the periosteum covering the tibia. Contraction is impossible and cicatrization is interfered with every time the patient walks.

Hemorrhage from a chronic ulcer is a different thing from hemorrhage in an acute ulcer. In the latter, the hemorrhage, while sharp, does not invariably tend to recurrence, and the patient quickly regains from the temporary depression. In chronic ulcer the hemorrhage, though small in amount, recurs with brief intermissions of a few hours, or days, and the frequent repetition produces a condition of most profound anemia.

It is not regarded as good surgery to operate for hemorrhage in acute ulcer, because the ozzing seems to come from numerous erosions, and not from any vessel. It is manifest that operation would be unavailing in that form of hemorrhage. In the other form of ulcer, the base is hard, infiltrated, and the edges evince the long standing of the disease, the eroded vessel is unable to contract and retract in the indurated and thickened tissue, and therefore the spontaneous closure is unlikely. Young patients the subjects of acute round ulcer rarely have fatal hemorrhage. It is stated by Hood that no death from hemorrhage in a young female with gastric ulcer occurred in Guy's hospital in twenty years.

Operation in the chronic ulcer can easily determine its site on account of the induration; the ulcer can be excised or its base ligated, or a quickly performed gastro-enterostomy seems to be competent to cure the condition.

Cases of a very severe single hemorrhage might be subjected to operation before another one, provided the hemaglobin is, or can be brought, above 35 per cent. When the hemorrhage recurs frequently, and when there is soreness, operation is indicated. In the acute cases, the operative mortality of nearly 40 per cent. is almost prohibitive.

The question of perforation is important and interesting. Perforation of the chronic gastric ulcer takes place in varying frequency. The lowest estimate of its incidence is 3.2 per cent. The highest statistic ratio, that of Fenwick, is 28.5 per cent, while Robson calculates that from 15 per cent. to 20 per cent. perforate. It therefore occurs with sufficient frequency to render any sudden, severe, stabbing, and altogether unbearable pain in the epigastrium, followed by collapse, the subject of closest scrutiny. The anxious, agonized face, the cold, clammy perspiration, livid lips, and blanched features, tell too plainly the character of the havoc that is being wrought on the interior. The abdomen, which is at first rigid and retracted, soon becomes distended by the consecutive peritonitis which seals the doom of the victim in 96 per cent. of these hopeless cases. But are they hopeless? Mikulicz was only able to find one case that was saved out of 35 operations between 1885 and 1893, but between 1894 and 1896 there were 68 operations, with 36 deaths, or a recovery rate of 47.06 per cent.

Prompt operative interference should be had upon these cases. If done in the first twelve hours, 81.5 per cent. will get well: in the second twelve hours, 36.4 per cent. survive; and in the third twelve hours, only 12 per cent. If they live over forty-eight hours, then about half of them can be saved. (Adapted from Mayo Robson).

The appalling fact that these dangerous complications of hemorrhage and perforation are attended with such high mortality, with or without operation, constitutes the most eloquent plea possible for a surgical cure of all chronic ulcers before the disastrous sequences supervene. All cases that have resisted careful medical and dietetic treatment demand operation.

It is a surgical disease like appendicitis, but has a much less chance for recovery. One writer compares it to ulcer of the rectum, of the tongue, and of the lower extremity, in the necessity for surgical treatment. Ticomi takes the advanced position that it should uniformly receive radical treatment, which he believes to be as necessary as the radical treatment of hernia. While I cannot endorse this, believing, as I do, that the majority are medical from first to last, yet I agree with Von Leube, the most ardent advocate of purely medical management, when he says, "If a gastric ulcer is not cured in four weeks' treatment, it cannot be cured by medical treatment at all."

We must not ignore the mortality of gastric ulcer which Heydenreich puts at 25 per cent, and Einhorn estimates that it is directly and indirectly the cause of death in 50 per cent. Contrast that mortality with the optimistic statement of Wyllys Andrews that the surgical treatment of gastric ulcer should and will yield ultimately as good results as the interval operation for appendicitis. Greenough and Joslin found that of every two patients seen with gastric ulcer, one would ultimately die. Moynihan, in 51 gastro-enterostomies, only had one death, (and has since reported 100 with only 2 deaths).

Even when gastric ulcer heals, the frequency of its location at or near the pylorus begets in many instances as a result of the cicatrization a stenosing obstruction that often results in a dilated stomach. In 1902, out of 252 routine stomach tests, Graham found 135 cases of dilatation of the stomach, due to pyloric ulcer and cancer. When the ulcer in its next most frequent site, the posterior wall, cicatrizes, it often produces a mesial contraction, which then results in the hour-glass stomach. In some instances a trifid stomach is formed. When the ulcer is at the cardia, gastralgia results.

In any location, an ulcer is prone to necrose deeply, and, as the result of infection, to produce adhesions to adjacent viscera. Perigastric adhesions are especially vicious when they occur around the pylorus, acting from without as an obstructive agent and inducing a train of symptoms that is a type of the mechanical form of dyspepsia, not amenable to medicinal cure, but requiring surgical relief. I have seen adhesions about the pylorus from a recent cholecystitis produce such an obstruction as to cause vomiting of all ingesta, and the patient had to be nourished by rectum until relieved by operation.

The frequent occurrence of gastralgia of a long period in cases where an investigation of the gastric functions fails to detect any abnormality, is suspicious of adhesions.

The history of these dilatation cases is one extending over many years, probably. Pain, vomiting, and perhaps hemorrhage, exacerbations, and remissions are conspicuous. Finally, the vomiting assumes the infrequent but enormous quantity indicative of retention and stagnation.

The routine examination of stomach cases very easily demonstrates the presence of dilated stomach. When the tube is introduced and removes the test-meal, with the patient in the recumbent posture, the stomach is pumped full of air with a

Davidson syringe, and its outlines are easily discerned by inspection, percussion, and anscultatory percussion. Occasionally a tumor is thus developed near the pylorus, which may be a high-lying pyloric ulcer, greatly indurated. Dilatation with pyloric tumor, of course, always raises the suspicion of cancer, but the chemical examination in cases of ulcer will usually show an excess of HCL, whereas in cancer there is generally an absence of HCL, but the presence of lactic acid.

I shall not go minutely into the important and sometimes difficult differentiation of cancer of the stomach, but referring again to non-malignant dilatation, the splashing sounds can be demonstrated and the causative pyloric obstruction is often confirmed by actually seeing the left to right peristalsis.

Spasm of the pylorus may be induced by the hyperacidity attending an ulcer in other locations, and the imprisoned food decomposition and fermenting produce emesis of food containing sarcinæ, in the absence of real dilatation. These are the mechanical conditions resulting from chronic ulcer and its complications, which produce the invalidism and utter misery of the dyspeptic, whose sufferings are too often regarded as being due to chemical or motor insufficiency, and whose emaciation from the chronic starvation of regurgitated food is sometimes looked upon as a part of the cachexia of cancer. Indeed, many cases of this character, with tumor, have, even after exploration, been diagnosed malignant, until, as the result of the gastro-enterostomy that was done as a paliative resort, the patient's ulcer was cured and he got entirely and permanently well. For the treatment of most cases of chronic and incorrigible dyspepsia, depending upon the existence of chronic gastric ulcer and its complications, gastro-enterostomy has demonstrated its competency to cure.

The explanation of these cures is the rapid emptying of the stomach and the resulting physiologic rest which allows the ulcers, frequently more than one, to heal. The stomach is simply a hopper for food, and in order to drain it, which is the object in all cases of ulceration, the most dependent point must be chosen.

The anastomosis of jejunum is usually made either anteriorly (the meahod of Wolfler) or retro-colic, the method of Von Hacker. Much discussion arose as to which was the preferable method, but the Mayos, who have had the largest experience in gastric surgery in America, after employing both methods,

found their results to be equally good with both. They demonstrated, however, and established the principle that in either operation the desideratum was to make the opening at the lowest part. When this is done the difference between the anterior and posterior openings was actually found not to be a half inch apart.

The discussion as to whether the Murphy button or simple suture is used is not momentous. The results with each have been very satisfactory. The button is simpler for the operator who is not dexterous with the suture. It requires a shorter time, although some operators employ the suture with great speed. Monynihan commonly completes the entire operation in thirty minutes, and has performed it in seventeen minutes. The tendency seems toward the simplification of all surgery and the discarding of all mechanical aids to gastro-intestinal anastomoses.

In the performance of stomach operations great care should be exercised in the preparation of the patient. Their nutrition should be improved by rest in bed, rectal alimentation, and the measures conducive to increased metabolism. The mouth should be sterilized and all carious teeth extracted. Stomach lavage is a necessity in alleviating the stagnation of retention. The last lavage should be some hours before operation, and all fluids should be evacuated by putting the patient in Trendelenburg's position, if necessary. A neglect of this precaution has caused drowning of patients from large quantities of fluids ejected during anesthesia.

The following technique of Gastro-Enterostomy, as observed in the practice of the Mayos, has been the simplest and altogether the most ideal method which I have employed: A 3½ inch incision through the right rectus muscle gives ample space for a careful exploration of the stomach and adjacent viscera. The finger determines the parency of the pylorus, which should allow the finger and thumb to meet nicely. Often the indurated ulcer can be felt as a hard, thickened area, or seen as a puckered spot through the peritoneum. Frequently, where the ulcer can not be felt, there are sentinel glands at the greater curvature that indicate its presence. The posterior method utilized the jejunum just as it lies normally against the stomach, with the meso-colon intervening. In the operation, this is nicked and with careful avoidance of the middle colic artery torn more widely. The omentum and colon have been turned up over the

stomach. The posterior wall is pushed through the meso-colon aperture and a suitable point selected near the greater curvature, about its center. A fold about three inches long is grasped in a Doyen forceps. The jejunum is picked up at the plica jejuno-duodenalis, and at a point about three or four inches therefrom (Mikulicz) it is also grasped in a forceps. The remainder of the stomach, omentum, and viscera are all returned to the cavity, and nothing is visible but the two forceps holding the viscera to be anastomosed outside of the abdomen, and carefully surrounded with gauze.

The jejunum is sewn transversely to the stomach for the distance of two inches by a continuous sero-serous suture of Pagenstecher linen. The viscera are then opened and an ellipse of mucosa excised from each to give larger and an unobstructed calibre to the anastomotic ring. A second over-and-over suture now unites all coats of the cut margins of each viscus, which is continued around in front completing the union of the inner circle. The clamps are removed. The first suture is then resumed through the serosa, around the inner line until it meets the point of first introduction, where it is tied and completes the anastomosis.

The inner suture going through all the coats is hemostatic, and the outer protecting and approximating, which includes only the serous and subserous.

The mechanics of this procedure depend upon the fact that the short limb of the jejunum goes straight from its junction with the duodenum to the anastomosis. It has no slack to drag upon its new attachment. The transverse union of the jejunum does away with the loop which has always bred mischief. A similar operation is used by Czerny; and Peterson says there has been no case of "vicious circle" in 215 operations by this method. Therefore I shall not describe the various ingenious, but according to this, unnecessary, procedures to overcome that hitherto troublesome and fatal complication.

Immediate improvement is the rule, which continues and becomes permanent in the great majority of cases. Emaciation disappears, the dyspepsia vanishes, and the patient can take solid food with ease, which to the former sufferer is almost unbelievable.

I shall not go into the various other operative procedures applicable to gastric ulcer and its consequences, as drainage is the essential, and gastro-enterostomy may be taken as the type.

It may be concluded, therefore, that in this new and important field of surgical usefulness the hitherto neglected and distressing cases of otherwise incurable dyspepsia have a reasonably certain and safe assurance of restoration to function and happiness by modern Gastro-Enterostomy and allied operations.

HYOSCINE.

By McLean Pitts, M. D., of Selma.

Junior Counsellor of The Medical Association of the State of Alabama.

Hyoscine is a colorless, odorless drug, with a slightly bitter taste, easily dissolved in water, free from irritating qualities, and is most often used hypodermically. It resembles in many respects atropine, and, like atropine, its continual use will seriously derange the mental faculties. It is probably responsible for the many weak or impaired mental conditions which are noticeable in patients returning from the many retreats for the cure of the whiskey and opium habits. It depresses respiration, slightly slows the heart's action, and, in full doses, has a tendency to produce paresis of the throat muscles. Dryness of the throat and thirst often exist after a medium dose has been administered. Its effect on the pupils is not reliable. It especially affects the motor tracts of the spinal cord. It is best administered hypodermically, and, as a precaution, strychnine sulphate, or some other stimulant, is nusually combined with it. The patient should be carefully watched, until the stage of excitement is over, and until the sedative action of the drug is observed. In my experience whatever depression exists is always during the stage of excitement. After the sedative action of the drug is established, all symptoms of depression disappear. The physician can then leave the patient with safety, and usually he will get a good rest and sleep, which resembles a natural one. Shortly after the administration of hyoscine, the patient will pass through the stage of excitement and some depression. This stage generally lasts about three-quarters of

an hour. During this stage, we notice slight respiratory depression and confusion of ideas. In some cases the patient may be very talkative, but most often he does not have much to say, but shows other symptoms of more or less excitement. Within an hour this drug produces a sensation of fatigue and drowsiness, which is soon followed by sleep. This rest will generally last six or seven hours. On awakening the patient will remain drowsy for an hour or so, and will then feel much refreshed, and show no signs of depression.

In recent years this drug has been brought prominently before the medical profession by its use in the treatment of the opium and liquor habits. It has, no doubt, relieved much suffering on the withdrawal of the opium or liquor, and has assisted materially in resoring these unfortunate patients to health by giving rest and sleep, and to this extent, assisting nature. But as to its relieving a desire for these drugs, or assisting in the elimination of ptomaines, etc., I have no faith in any such action of the drug. We all realize that sufficient sleep and rest in all diseases of drug addiction is nature's best remedy; and so long as we assist nature, and do not antagonize her, we are on the road that will bring us much gratification at the results that are obtained. I firmly believe hyoscine is one of our best sedatives when used cautiously and in moderation, and that it will assist nature in restoring many unfortunates to the normal conditions of life. The drug is being used with much success in quieting and controlling patients during the excitement of acute mania. I remember several years ago being called in consultation with a fellow practitioner to see a patient who was suffering with acute mania. On reaching the residence, we found a patient of some fifty years of age; she was very much excited and had hidden herself in the clothes closet, and in no way could she be persuaded to come out. We decided that it was best not to use force, as we were afraid of injuring her. I advised one one hundred and fiftieth grain of hyoscine and one-thirtieth grain strychnia sulphate, which was administered at once—hypodermically. In this case, the results were obtained quickly, for, within thirty minutes she came out of the closet and retired. Within thirty minutes more she was asleep, rested for seven or eight hours, and was much refreshed. On several occasions after this, I treated this patient the same way, and always obtained good results. In delirium tremens, it will give quiet, relieve restlessness, and, in most instances, produce

a good, refreshing sleep. In an ordinary "drunk," a small dose of hyoscine to quiet, and a good cathartic will give your patient relief in ten or twelve hours. As I have already stated, the patinet, on awakening, will be more or less confused, but this all passes off within an hour or so. In nervous and hysterical conditions in women, especially those associated with menstruation, where other means have failed, hyoscine often gives results entirely satisfactory. In my opinion, hyoscine is much better in these cases than morphine or codeine, as there is no danger of the patient contracting the hyoscine habit. The stage of excitement, with a slight respiratory depression, is so objectionable to patients that they will never use the drug without its being administered by the physician, and, in most instances, they will require the physician to remain with them until the sedative action is established. Again, the patient does not get that sensation of pleasure and enjoyment, usually associated with rest, that is produced by drugs to which people are likely to become addicted. Authorities lay much stress upon the good results obtained from hyoscine in relieving the tremor and allaying the restlessness of paralysis agitans. They recommend the use of very small doses. In the violent movements of acute chorea some of our authorities are very high in their praises of hyoscine. Several months ago, in discussing hyoscine with a fellow practitioner, I was told that, in cases where there was great pain in nervous subjects, the combination of hyoscine and morphine would give good results; as, in many cases the morphine will relieve a pain, but does not relieve the patient's restlessness, and that the combination of hyoscine would give a few hours sleep. I have tried this once or twice, with satisfactory results. In all cases where excitement is great, or sleep is to be acquired, and there is no depression, hyoscine, in combination with some stimulant, is useful. On account of the tendency to produce paresis of the throat muscles hyoscine is contra-indicated in affections involving throat muscles, such as hysteria. In diseases producing respiratory depression, or cardiac weakness, I would not give hyoscine unless carefully guarded with stimulants. Idiosyncracies of the patient will have to be taken into consideration when administering hyoscine, as in all other drugs. The continuous, or too frequent, use of the drug will produce delirium, and, in time, weaken the mental faculties; or, if given in large and frequent doses, will produce paralysis of the respiratory center. The

delirium is often produced after the use of several small doses, but the patient's mental condition is not seriously involved. In conclusion, let me say that I have used this drug in a great many instances and have never gotten any ill effects. I am always very careful to give it in combination with strychnia, or some other stimulant, and I remain with the patient until the stage of excitement and depression is over. I firmly believe, where judiciously handled, that much good can be accomplished and great comfort afforded patients.

DISCUSSION.

Dr. Wyman: "With reference to the paper just read, I will say that hyoscine is one of our most valuable remedies, when used in selected cases. The doctor has given us a very able presentation of the therapeutic use of this valuable drug. I had an opportunity several years ago, when I was connected with the Hospital for the Insane, to see the effects of hyoscine in the treatment of the acute insane; in other words, in the treatment of patients during acute attacks of insanity. In those days hyoscine was very largely used, and we gave as much as the twelfth of a grain. I do not know of any very serious results from the use of these very large doses. In lieu of physical restraints, we used chemical restraints. At the present time, the use of hyoscine has been, to a large extent, limited to the treatment of the acutely insane, because we know that these strong sedatives have a more or less deleterious effect. The tendency of modern times is to resort to the use of *physical restraint* rather than to the use of these stronger hypodermic drugs. I believe that hyoscine is a very valuable drug in the treatment of certain stages of actual delirium, if given in properly selected cases. Dr. Pitts has described the class of cases in which it is useful. In delirium tremens I have found it to be a very valuable drug."

Dr. Petty: "I am glad to hear this discussion, because hyoscine is a drug that is not very much used. It is certainly one of the most valuable remedies with which I have had experience. The dose of hyoscine is not very well ascertained without actual test on the patient. Dr. Pitts expressed the idea that there is no danger of the patient forming the hyoscine habit; there is such a thing as the danger of forming the hyoscine habit. Any drug that produces a state of quiet and brings

about sleep and relieves pain, will result in the formation of that habit. There is probably less danger in hyoscine than in some other narcotics, but when the habit is formed it is the most desperate habit that I know of. It stays with a man forever."

Dr. Searcy: "A word or two upon hyoscine, particularly where used as a substitute for opiates and alcoholic drinks for persons who are habitués of that kind. It has been mentioned a great deal as a drug to be used as a substitute in such treatment. I have been struck by the different attitudes taken by men who had private sanitoriums for the treatment of these kind of patients, and those who were in public institutions where they have the complete and perfect control of their patients, as to the treatment of such habitués. When a man has perfect control of his patient—that is, where a man is committed by law—the immediate and entire withdrawal of the drug is the rule. Hyoscine is used largely in the treatment of such cases. With us the rule is always, no matter how bad the case, to withdraw the drug entirely and then watch symptoms. The clinical chart is carefully watched and we see the case continuously. If the symptoms, and the man's actions, and pulse, and all that, go on somewhat normally, it does not make any difference about the complaint of the patient, we continue to withdraw the drug. If he will not bear it, then hyoscine is a good sedative. In giving the drug, would always advise the administration of exceedingly minute doses, frequently repeated. In using hyoscine, I seldom give over 1-200 of a grain, and repeat until I get the sedative effect. In giving large does, the motor centres seem to be impaired by it, which is characteristic of the drug. So, give it carefully, and give it just as little as you can."

Dr. Pitts: "I will say that I read this article because I believe that the general practitioner needs just such a drug in a few cases. We are often confronted with a case of acute mania in which this drug has not been used very much by the general practitioner. In writing the paper I was in hopes of bringing out a discussion that would be of much benefit to us all, and I have been very much gratified by the discussion. In reply to Dr. Pettey, I would say that in my experience, when a fondness for the drug is obtained, the hyoscine has been associated with some other drug, and it is the other drug, instead of the hyoscine, that is responsible for the mischief."

MENTAL ABNORMALITIES.

By J. T. Searcy, M. D., of Tuscaloosa.
Grand Senior Counsellor of The Medical Association of the State of Alabama.

Originally the insane were largely treated as felons and classed among the criminals. Fifty years ago, in Alabama, they were chained, or boxed up in rooms and pens, in their homes, and under municipal and county care they were improperly, often inhumanly, treated. The evolution of the humane care of the insane in Alabama has taken a shorter course than it did in some of the older states and in older countries, because it began later and had the advantage of their experience.

The agitation of State-care for the insane, in opposition to other methods, spread gradually over the whole country and was begun in this State about 1850. The first official move originated in the State Medical Association, which adopted resolutions, looking to it, about that time. The Legislature passed an act in 1852 to build an Insane Hospital at Tuscaloosa, and work on the buildings was begun in 1853. It was not until 1860 that the Institution was so far completed that patients could be received. The trying times of the civil war, and the reconstruction days afterwards, impaired and impeded the support and management of the Hospital for a number of years. Under the able and adroit administration of Dr. Peter Bryce, supported by an excellent Board of Trustees, the Insane Hospital passed through those trying times more successfully than any other State institution or enterprise.

There are now two hospitals for the Insane in Alabama, one, The Bryce Hospital at Tuscaloosa, and the other, the Mount Vernon Hospital, at Mount Vernon. These Institutions are under the same Board of Trustees, and have the same Superintendent and Treasurer. The Board of Trustees elect their members to fill vacancies as they occur, with the approval of the Senate, and the Superintendent, with the approval of the

resident committee of each hospital, appoints all of the officers and employes who serve under him. The Insane Hospitals of the State, largely because of these features in their incorporation, have been exceptionally free from political interference and intermeddling, and from its beginning the care of the insane in the State has received the approval of the people.

From the first, the Institution at Tuscaloosa has been called a Hospital, and has been under medical management. Originally, when the insane were considered culprits, they were cared for in penal institutions. Afterwards, when they were legally disqualified and declared irresponsible, the places to which they were sent were called asylums, in imitation of the "places of refuge" to which, in ancient times, the accused could flee from the officers of the law. Nowadays, they are placed under the care of physicians; the Asylums have become Hospitals: the inmates are called patients; and their attendants nurses. The law, also, requires that physicians shall give advisory or expert opinions to a court that is holding an inquisition as to the grade of a person's mental disqualification for the purpose of committing him to an insane hospital. Medical opinion is generally sought by a court in disqualifying a person, for any purpose, because of mental abnormality.

It is well to remember that it is the grade of the person's mental abnormality that is the question in almost every legal inquisition, and that there are no clean-cut, well-defined margins between mental soundness and unsoundness, between sanity and insanity. It is only a question of the grade of the deficiency or defectiveness,—whether the abnormality is sufficiently great to legally disqualify.

In sending a person to one of the Insane Hospitals application has always to be made, to see whether there is room for that class of a patient. The Hospitals rapidly fill with aments and dements, so that those wards are far the most crowded. For this reason an accurate description of the patient has to accompany the application. Effort is always made to keep room for curable and dangerous cases. We have had to send back, after they have been brought to the hospital, patients who have been improperly described, because we had no room for that class. Simply dullards and dotards, as a rule, cannot be taken. The State would have to make provision for three or four thousand, if we admitted all such. Criminals, who are ordered to the Hospital by a court, do not have an advantage

over others, nor do paying patients—all have to make application, and are accepted according to their class and the crowded condition of the wards to which they belong. The home physician of the person is always an important party in sending a patient to the Hospital, so that it is well to have these rules understood by the profession.

II.

If the term disease be taken in the broadest signification to include all forms of human abnormalities, mental abnormalities may be said to be mental diseases. We often hear them spoken of as diseases, whose treatment is usually referred to medical men.

The word *Psychosis* is coming into scientific and, latterly, into popular use as a term to designate any mental abnormality. It is derived from the Greek word PSUCHE, mind; from it we also get the words, psychic, psychiatry, psychiatrist, psychology, psychopathy and the like. The words psychotic (a psychotic malady), and psychosed (a psychosed person) would be legitimate and convenient.

A Psychosis is a mental malady of any kind. There are all grades of any kind of psychosis. Psychoses are graded as mild or serious according to the way they injuriously affect the welfare of others. Some kinds of psychoses are usually more serious than others.

The term psychosis is applied to all kinds of mental abnormalities and covers all grades of each kind. Because the terms *lunacy, mental unsoundness, non-compos-mentis* and *insanity* have been indiscriminately applied to all kinds and all grades of mental abnormalities, much confusion has arisen. It is best to limit the application of these terms to the graver grades of the psychoses; and to have them apply only to those grades that legally disqualify a person. Lunacy and mental unsoundness are broad terms and are applicable to all psychoses that are of a disqualifying grade. Non-compos-mentis more properly is applicable to those kinds and grades that render the person deficient in mentality, which deficient condition so disqualifies him that he is dependent on others for his support. The term insanity is more properly limited to those kinds and grades that render the person a menace to property, to his own safety, or to the welfare of others.

A court of the State alone is authorized to declare a person disqualified by a psychosis. There are a number of civil rights, privileges and responsibilities from which a court can disqualify a person because of the serious grade of his psychosis. The law authorizes a court to estimate the grade of the psychosis of a person for the purpose of disqualifying him from some of his civil rights, from some of his legal responsibilities, and, also, for the purpose of giving him the advantage of State care and treatment. For instance, a court can take cognizance of a person's psychosis and estimate that its grade is sufficiently serious to disqualify him from voting, testifying, or marrying; or can disqualify a person, so as to invalidate his will, his contract, or his convevance of property; or can disqualify a person so as to declare him dependent on charitable aid, or upon a guardian to manage his business for him; or can disqualify a person, as one so mentally abnormal, that, for his own welfare or the welfare of others, he should be restrained from going at large and have the advantage of care and treatment in an insane hospital; or a court can judge the mental abnormality of a person sufficient to absolve him from the penalty of the law if he have committed a crime.

Because the law only takes cognizance of disqualifying grades of psychoses it is preferable to confine the commonly used legal terms insanity, unsound-mind, non-compos-mentis, lunacy, and the like, to the grades sufficiently serious for legal disqualification. The term psychosis, however, covers all grades.

Because the person is recognized as one disqualified by his mental disability or defectiveness, the procedure of court that considers his case is an *inquisition* into the grade of his malady. It is not a trial for crime, nor should it resemble a trial, although the person may be an objectionable, or a delinquent character. An insane person is now-a-days never declared a felon or a criminal; nor is he sentenced or condemned. The paper which commits him to a hospital should be of the character of a certificate of disability which entitles him to the care and treatment of that institution. It does not sentence him to it.

DELUSIONS.

Delusions are often set down as indications of mental abnormality. A delusion is a wrong opinion, idea or notion that a

person has and holds to. The delusion is wrong in the opinion of the intelligent persons who know the facts on which it is founded. It is not wrong in the opinion of the person himself. He holds on to it or promptly returns to it, notwithstanding the efforts of others to convince him of his error. A delusion is an error of judgment; it always indicates defective reasoning abilities. Delusions are frequent symptoms of a psychosis, and help to determine its grade. A delusion does not always legally disqualify a person; it may not be sufficiently serious for that. It, however, always demands attention as an important symptom. The results of defective reasoning promptly bring a person within the attention of others. His conduct is founded mostly upon his reasoning abilities. Reasoning is the central and most important part of mentality. More than anything else it determines the standing of a man. Deficient, faultly or defective reasoning abilities produce delusions. The insane are often described as "without reason," and "full of delusions."

Illusions and hallucinations are varieties of delusions, that occur through the senses. In illusions and hallucinations the person is deluded as to what he sees, hears, smells, tastes, or feels. The difference between an illusion and a hallucination is, in illusion, there is an external object affecting the sense organ, but the person is deluded as to the character of it; in a hallucination, the delusion is altogether imaginary—there is nothing affecting the sense.

III.

For convenience, it is well to classify the many psychoses under three general heads; first, the *Defective Types*; second, the *Deficient Types;* third, the *Erratic Types.* There is so much variability in human mentality that it is impossible to give definitions with clean-cut or fixed margins. Yet it is, for convenience, well to define certain states or stages, and to place them in certain classes—there would be no order or proper understanding without it.

THE DEFECTIVE TYPES.

The Defective Types of Psychoses may be said to have as their most prominent characteristic more or less mental stress

or effort, which is abnormally defective. The person's mind is abnormally earnestly occupied in a certain way. He is popularly called "deranged."

Under the Defective Types may be placed the *Manias*, the *Melancholias*, and the *Phobias*.

A *Mania* is an exalted or excited mental abnormality. A maniac does not have a sense, or self-conviction, of his own mental ability. He is abnormally exaggerated, exalted or excited in his ideas and conduct. The Manias can be classed as *Acute*, *Transitory*, *Relapsing*, *Recurrent*, *Circular*, and *Chronic*.

Acute Mania is a recent mania. It is best not to use the term to mean a severe mania. An acute, or recently begun, mania has not yet shown how it will change or end.

A Transitory Mania is an Acute Mania that ends quickly. Whenever an excited or exaggerated mental abnormality passes off promptly it is a Transitory Mania. A delirium accompanying a fever is usually a Transitory Mania. The excited or exalted stage of an intoxication by alcohol, or other such agent, is a Transitory Mania.

A Relapsing Mania is one that subsides, or grows better, but does not entirely disappear before it becomes worse again.

A Recurrent Mania is one that ends in recovery, but returns again after a time.

There is a form of varying or changeable psychosis called "*Circular Insanity*," in which the mental condition makes a circle through two more different types. The leading characteristic at one time, for instance, may be mania, then it may change to melancholia, then to dementia, after which it may become normal; after a time, the insane condition recurs again and the same circle repeats itself. *Circular Mania* is an excited or exaggerated stage that occurs in the course of a "Circular-Insanity."

Chronic mania is a mania that hangs on a long time. Most manias end in recovery or change into something else; the psychotic state seldom continues as mania through a long lifetime. When a mania continues a long time it is called chronic. The injury done by the excited stress and strain of mania generally brings on a condition of secondary dementia; when this occurs, the dementia, being the most prominent characteristic, gives the condition that name.

Because Maniacs are often excited, violent or dangerous persons, who, because of their objectionable characteristics, were the first to be called the insane, and, necessarily, were the first to be provided for by the State, the hospitals for the insane are frequently popularly supposed to be filled with maniacs; which is by no means the case. Most maniacs and other insane eventually become dements; which fills these institutions with that class principally.

Melancholia is a form of Defective Psychosis in which the prominent characteristic is abnormal mental depression or misery. Melancholia is permeated with and largely rests upon a sense of self-conviction of mental inability. A melancholiac, generally, is depressed or mentally miserable because he has an abnormal sense of his inability to be or to do what he desires. He yields to his abnormal sense of inabiity and is depressed, miserable and meancholy.

Melancholia can be classed as *Acute, Transitory, Relapsing, Recurrent, Circular* or *Chronic.* These terms have the same meanings as when given in describing similar varieties of mania. Acute Melancholia is a recent melancholia. Transitory Melancholia soon recovrs. Relapsing Melancholia gets better, then worse again. Recurrent Melancholia recurs after an interval. Circular Melancholia makes one stage in a round of "Circular Insanity." Chronic Melancholia lasts a long time.

Melancholia, like Mania, often terminates in secondary dementia.

Phobia means an abnormal fear or dread of something. Apprehensions are natural or normal states of minds; they sometimes, however, reach an extreme unreasonable grade when they become abnormal. Particularly, does an apprehension, fear or dread become a psychosis when it is founded on a delusion. Some phobias are natural apprehensions carried to an extreme; others are entirely unfounded in that they are based on delusions. A person, for instance, can carry a natural fear of fire or lightning to such an extreme that it becomes an abnormal mental condition; another can have abnormal fear about spirits haunting him or disease threatening him, either of which is a delusion. The list of technical names given to different Phobias is a long one. There are about as many specified as there are things that have been the objects of abnormal fears. A Phobia sometimes so injuriously affects the welfare of the person himself or the welfare of others as to

bring his case within the cognizance and jurisdiction of a court. *Hypochondria* is a very frequent Phobia; it is an abnormal fear of some disease.

THE DEFICIENT TYPES.

Deficient Types of Psychoses are those in which there is an all-round loss or lack of mentality. In them there is a general deficiency of mental ability in all the departments of thought. A mentally deficient person does less thinking of all kinds. He is generally less capable than a normal person. His most prominent characteristic, which gives him his classification, is either a general loss of mentality or an original want of it. The Deficient Types of Psychoses can be divided into those of *Dementia* and of *Amentia.*

Dementia is a Deficient Type of Psychosis in which there has occurred, at some time in the person's life, a general loss of mentaity. The whole line, in all of its departments, has become impaired. There is less ability to think, and, consequently, less thinking. In its extreme grades, the person is a very pitiable object; he has barely enough mind left to exist, with the help and attention of others. Dementia is generally divided into *Primary* and *Secondary.*

In *Primary Dementia* no other form of Psychosis has preceded it. It has been dementia from its beginning; it is not a sequel of anything else. Primary Dementia can be *Acute, Transitory, Relapsing, Recurrent,* and *Chronic.*

Acute Primary Dementia is a recent condition.

Transitory Primary Dementia is a dulled, dazed, stupid or confused mental condition, which soon changes to normal. It does not last long.

Relapsing Primary Dementia gets better and becomes worse again. It may repeat the relapse a number of times.

Recurrent Primary Dementia returns again after a period of normal mentality. The recurrences may happen a number of times.

Chronic Primary Dementia remains for a long time. It is not usual for a Primary Dementia to become chronic in a young person. A chronic or fixed primary dementia in a young person is called *Dementia Precox*, or Precocious Dementia. The natural effect old age is to produce *Senile Demenia*...The natural age for this condition to occur varies

greatly in different persons. Senescence sets in much earlier in some persons than in others. A *Dotard* is a Senile Primary Dement.

Secondary Dementia is always a sequel to some other form of psychosis, most often Mania or Melancholia. It often forms the last stage of Circular Insanity. Secondary Dementia is called *Terminal Dementia*, when it becomes the incurable stage which ends with the man's life.

The second of the Deficient Types of Psychoses is *Amentia*. By Amentia is meant an all-round want of normal mentality, which has existed all the person's life, or since he has been old enough to have had his mentality graded. It is a want of normal efficiency in all the departments of thought. Aments are sometimes called *dullards*. Amentia may be divided into *Idiocy*, *Imbecility* and *Simple-Mindedness*. These terms simply designate different grades of Amentia, which shade off into each other.

An Idiot is an Ament who cannot be taught to be useful in any way, to himself or to others. He is utterly helpless and dependent.

An Imbecile is an Ament who can be taught to do useful things under the immediate care and direction of others.

A Simple-Minded or Feeble-Minded person can be trained and educated to be quite useful, and sometimes can work independently of outside help, so the work is not too complicated. Schools for the Feeble-Minded often accomplish very encouraging results. Careful training can improve all Aments in early life.

THE ERRATIC TYPES.

The third class of Psychoses is the *Erratic Types*—those that differ from the normal in singular and peculiar ways. The Erratic Types may be said to be principally the results of an hereditary bias or tendency to erratic ways, which the person holds as an inherent trait. Prominent among the Erratic Types of Psychoses may be mentioned *Neurasthenia*, *Hysteria*, *Paranoia*, *Moral Imbecility and Immoral Perversity*, *Excessive Credulity*, and the *Drink or Drug Habit*.

Neurasthenia literally means nerve-weakening. The most prominent symptom of Neurasthenia is over-sensitiveness. It is popularly called "nervousness." A frequent symptom of

it is malaise or general bad feeling. The neurasthenic is easily discomforted. He is easily fatigued. The natural functions of the body, such as thinking or muscle work, occasion him discomfort. He is loth to put forth effort of any kind. Is often irritable and intolerant.

In its grave forms Neurasthenia sometimes reaches a grade that is sufficient to legally disqualify a person. The neurasthenic may become an object of sympathy, and legal interference may be required for his own welfare, or for the welfare of others.

Hysteria may be called an Erratic Psychosis of an emotional type. While in Neurasthenia the sensations are the morbid feature, in Hysteria it is the emotions. The hysterical person laughs, cries, or is irritable, in an abnormal manner. In Hysteria the abnormal emotion of the person almost always has in it the purpose of attracting the attention or the sympathy of others. Hysteria generally subsides on the withdrawal of the attention of others. The hysterical psychosis occurs in both men and women. Owing to the difference in the mental characteristics of the two sexes, in men the emotional exhibitions are more generally of an irritable or peevish type, meant more to give offense than to attract sympathetic attention. Like Neurasthenia, Hysteria can render a person so much an object of sympathy or of objection, as to require that a court disqualify him or her.

Paranoia, in common language, may be described as unreasonable crankiness.. Abnormal eccentricity, in different grades, is not an infrequent psychosis. It can be found in all directions in society. The prominent symptom in Neurasthenia is abnormal sensitiveness; in Hysteria is abnormal emotions; in Paranoia is abnormally eccentric reasoning. The term unreasonable suits the paranoiac in two ways; his peculiar and erratic ideas and conduct are unreasonable in the way they differ from the common-sense views of others; and the paranoiac is generally unreasonable in the way he is persistent and conceited in holding on to his peculiar notions, or even urging their adoption. A paranoiac is generally said to have "systematized delusions" in that he has a systematic way of supporting by argument his peculiar delusions. Faulty reasoning abilities give rise to delusions; so, delusions are very frequently symptoms in the paranoiac. Because their unreasonableness brings paranoiacs into frequent conflict with others, they are much given to delusions—of suspicion of others and of persecution

on the part of others. They are often contentious and litigious. They sometimes pose as reformers.

Paranoia is incurable; it is a hereditary bias. Paranoiacs sometimes appear as descendants of strong lines of intelligent ancestry, who while they have become defective in their descent, still retain many of the strong and persevering mental habits of their parentage. The tendency of paranoia is to grow worse as the paranoiac grows older. In its extreme grades, it renders some persons most objectionable members of society. Those paranoiacs, sufficiently erratic to be disqualified by a court and sent to a hospital, are always unpleasant and troublesome patients. They never recognize their own unreasonableness, and, never admit the correctness of the court that disqualified them, or of the hospital that restrains them.

Moral Imbecility can very properly be pronounced a Psychosis and placed among the Erratic types. It means an abnormal inability in the mentality of the person "to hold to the right or to avoid doing the wrong." Moral rules, regulations and laws constitute a very prominent and important element in the environment of every person, prescribed for him by public opinion or enforced by State law. A citizen is not legally allowed the right of arguing himself out of civil moral obligations. There are some persons who comprehend and admit moral obligations and do not deny the rightfulness of them, but are inherently weak in observing them under opportunity or temptation. The relapsing offenders, called "recidivists," who repeatedly come into the police courts, are examples of this class. The reluctance of the courts to admit moral weakness, separate from intellectual weakness, does not undo the fact that there are a few persons who are "unable to hold to the right." Inherent moral weakness or moral imbecility is sometimes admitted now-a-days in law, as a mental psychosis.

There is another type of this same psychosis, of the opposite kind. It is *Immoral Perversity*. The person is abnormally set or perverse in his immoral tendencies. He is intractable by persuasion or training and incorrigible by punishment. These exceptional characters appear here and there in society, sometimes very unexpectedly, in the best homes and surroundings. Immoral perverts, with considerable intelligence, adroitness and cunning, with no apparent intellectual defectiveness, show great immoral defectiveness. They commit crimes in no apparent motive other than the very pleasure of doing society that cannot be explained under ordinary motives. They murder, rape, fight, burn; they lie, steal, forge and offend, with

wrong—they delight in it. They are the fiends we sometimes find. There is no way of explaining such characters, except that they are inherently, immorally perverted; psychosed in that way.

The advantage of the "*Indeterminate Sentence,*" by which the length of time that a man shall be removed from society in a penal institution depends upon the grade of his moral abilities and habits, shows it more and more to be a good law. He is kept in the prison or reformatory indefinitely, for public welfare, no matter what his crime or offense, if he prove a moral imbecile or an immoral pervert. If it is found that he is incapable of making of himself a good citizen or of being made into one, he is permanently removed from society, like other psychosed persons of objectionable and incurable types in insane hospitals. The question in dealing with such characters is, often, in which direction they shall be sent—to an insane hospital or to the penitentiary. Owing to their liability to escape, their influence over other patients, etc., such persons do not suit well in the wards of a hospital.

Excessive Credulity may be mentioned as another type of the Erratic Psychoses. Credulity, faith or confidence is a proper and a natural trait. It can, however, in extreme grades, be declared a psychosis. It is another form of mental weakness which acts sometimes to the disadvantage of the person himself or to the injury of others, to a degree that requires interference. Such persons are often the dupes of fraudulent impostors and sometimes even of reforming paranoiacs. Excessive credulity constitutes the foundation of the susceptibility of some persons to hypnotic suggestion. The stress of a hypnotic surrender, when repeated, results in an injury to the mentality of the person in other ways than to increase his credulity.

The *Drink or Drug Habit* can quite properly be placed under the types of Erratic Psychoses. The tendency to such habits is usually an inherited trait, and the use of the agent increases the tendency until it makes of it a most formidable psychosis. The alcohol or the anodyne drug has a chemical effect upon the high-brain, which tends to an impairment of all mentality. As long as the alcohol is prsent, in a case of alcoholic intoxication, the man's mentality is like a Transitory Mania, and its continued use produces Mania-a-Potu.

There are, possibly, other psychotic maladies that ought to be mentioned under the erratic types, but these are the principal ones and are sufficient to show what is meant by the class.

PSYCHOSES.

DEFECTIVE TYPES.			DEFICIENT TYPES.			ERRATIC TYPES.
MANIAS.	MELANCHOLIAS.	PHOBIAS.	DEMENTIAS.		AMENTIAS.	
Acute.....	Acute.....	.....	Primary.....	Secondary...	Idiocy.....	Neurasthenia.
Transitory....	Transitory.....	.....	Acute.....	Acute.....	Imbecility.....	Hysteria.
Relapsing.....	Relapsing.....	Many kinds.....	Transitory...	Recurrent....	Feeble-	Paranoia.
Recurrent....	Recurrent.....	.....	Relapsing....	Circular.....	mindedness...	Moral imbecil-
Circular.....	Circular.....	.....	Recurrent....	Chronic.....	.....	ity and im-
Chronic.....	Chronic.....	.....	Chronic.....	Terminal.....	.....	moral perversity.
.....	.....	.....	Precocious...	.....	.....	Excessive
.....	.....	.....	Senile.....	.....	.....	credulity.
.....	.....	.....	.....	.....	.....	Drink or drug
.....	.....	.....	.....	.....	.....	habit, etc.

IV.

CAUSES OF PSYCHOSES.

Heredity may be defined as the living continuance or transition of habits of morphologic or physiologic action along the line of descent. Deteriorated hereditary habits tend to the elimination of the person and of his posterity; improved hereditary habits tend to their survival. Hereditary mental deterioration, by which is meant less mental capability in one generation than there was in the preceding, is a very prevalent condition in human society. Mentality is inherently variable. It declines readily and improves slowly—only after effort. Mentality may recover from a temporary impairment, but it does not rise above a previous ancestral level without continued effort.

Excellent mental abilities in the person himself and in his ancestry have been attained only by mental exertion or effort; and a person's inherited level is improved, maintained or lowered by the character of his own mental efforts and habits. There is no ready road to improvement; on the other hand, the road to deterioration is down-grade and easy. Mental excellence is, as a rule, the result of mental effort continued through generations. It can be lowered readily in a single life-time. The largest part of a man's mentality, he inherits. Mental excellence is largely a family, or a race trait; and mental excellence is an accomplishment, which has to be maintained by the same amount and kind of mental exercise and effort as have been used in its attainment.

Continued idleness deteriorates. Continued idleness is a cause of mental deterioration. There can be mental deterioration, a lessening of ability, by a general impairment of health from pathologic causes, which will be described directly. Mental ability-to-think is lowered in quality, not always, nor in the majority of instances, by some unnatural, pathologic causes, like disease, but most often by a cessation of mental exercise and effort. This is the all-prevailing, the most common cause.

Mental deterioration being an all-round, general lowering of capacities, does not of itself constitute an abnormality—a psychosis. It can, however, be an indirect cause of psychosis. Deterioration, by its weakening processes, increases materially the liability of the person to pathologic accidents, such as

disease, injuries and defectiveness. Mental capability insures a brain capacity to avoid, resist and recover from brain diseases, injuries and defective tendencies. Psychoses may be said to be side-issues or by-products of deterioration. Accidents of this kind happen because of deteriorated capacity, in the large majority of instances. It is true, brain injuries and diseases, with their consequent defects of mentality, do happen sometimes to persons of improving capacity, or of the already attained highest capacity; they are sometimes unavoidable. Psychoses happen most often to those persons, or those lines of descent, that are already mentally weakened, deteriorated or impaired; and the hereditary tendency to them continues in these lines of descent. In this sense, psychoses are hereditary.

Degeneracy is a term used to designate any organic defectiveness or deficiency that has become established as a hereditary trait. "Stigmata of Degeneracy," in the shape of malformations of parts of the body, particularly when there seems to be an established hereditary habit of that sort, are frequently drawn attention to as important indexes of mental abnormalities or liability to them. External stigmata indicate that there is, in the hereditary, shape-taking habits, (the morphology) of the person, a tendency to be easily deflected from the normal. The brain may or may not be involved in an aberrancy that affects other organs. Only a general tendency to abnormalities of structure is shown by the stigmata, which may or may not affect the brain, or mentality. In the same way there may be hereditary tendency to brain abnormality, while other parts are very normal.

The whole man is a living entirety. There is no part of him that is not living. Every organ is an aggregate of separately-acting, living cells, each one a separate entity; at the same time all are aggregated and associated together in doing the special functional work of that organ or structure. The cellular aggregates compose the structures and organs, which in their aggregate compose the whole man. The man cannot be properly understood unless he is looked upon as a community of separately acting, intimately associated organs or structures, themselves composed of innumerable numbers of separately acting living cells. This general community of actions and interests, harmonized and equilibrated into a communistic whole by the nerve-lines of the body, is affected or disturbed by injury or impairment of any part. The harm is done, not only

by the loss of function of the injured organ, but there is always more or less sympathetic disturbance of other parts. The mentality of a man can in this way be disturbed. A sudden mental suspension, or shock, occasioned by the sudden injury of a distant part is an example of this. Slower disturbances are also shown. *Vice versa*, for the same reason, distant organs are affected by mental conditions.

Toxins are a class of agents that have injurious chemical effects upon the brain, and lower, disturb, injure, and in time, often seriously impair mentality. Next to deterioration, generally in addition to deterioration, they are probably the most frequent cause of psychoses.

There are two kinds of Toxins, those that enter the circulation *from within the body*, and those that enter *from without*. Toxins from within cause what is called *Auto-intoxication*. There are two kinds of Toxins from within; those that are the waste-products of natural changes in the structures, which, not being properly or sufficiently eliminated by the emunctory organs, accumulate in sufficient quantity in the blood to be toxic to the brain; and those that are the products, like ptomaines and leucomaines, of disease going on in some organ. The general effect of idleness, or not enough exercise, is to produce general deterioration of system, which not only tends to increase auto-intoxication from any source, but also renders the brain more sensitive to its injurious effects. Deterioration increases auto-intoxication, and auto-intoxication hastens deterioration. They often accompany each other.

Probably torpid, impaired, or diseased functions of the *digestive tube*, in some part or in its whole length between the mouth and the rectum, is the most frequent source of Auto-intoxication. The importance of the alimentary canal in the treatment of mental diseases is illustrated by the fact that, generally, the first medication done is, as far as possible, to improve its sanitary condition by cathartics and intestinal anti-septics. If Auto-intoxication from the digestive tube can be stopped, in most cases of psychosis, an important step has been gained.

Toxins introduced from without form a very frequent source of mental abnormality. Many of these are medicines, properly administered. There is a peculiar class, frequently administered, called anodynes and anæsthetics. They have brain effect, so that by their peculiar chemical affinity for its delicate structures they render the man less sensitive, or wholly uncon-

scious if large doses are given. In small doses they have a pleasant effect. For this reason a few of the least toxic have come into very general use as luxuries. Notably among them are nicotine, and alcohol, opiates and cocaine, which are very extensively taken for their comforting effects. Their continued use impairs mentality. Sometimes induces psychoses. The tendency to a drink or drug habit is often an inherited trait, which trait is rapidly increased by the use of the alcohol or drug. The neurasthenics probably furnish the largest number of these habitués. The inherited over-sensitiveness and general bad feeling of neurasthenics lead readily to the use of such agents to allay discomfort; and the effect of a drink or drug habit upon a congenital neurasthenic is to increase his neurasthenia. If the user of such agents is not a congenital neurasthenic, their repeated use produces in him an artificial or acquired neurasthenia. Both congenital and acquired neurasthenia are increased as long as the habit is continued. A tendency to any other psychosis, besides neurasthenia, is also increased by the use of such toxins. His very ability to hold to a purpose or resolution to quit his habit is impaired by the toxin, so the habitué hastens himself on toward mental disqualification. Moral imbeciles and immoral perverts are rendered much worse characters by such agents. The injurious effects of such toxins upon the mentality of persons is abundantly illustrated in society; and the neurasthenic or otherwise psychosed children of such habitués are frequently found as natural hereditary results of their parents' habits.

It is easy to see how *injuries and diseases*, which disintegrate brain structure, according to their character, their location and their extent, directly impair mentality; of such there are very many. It can be assumed that all aberrant action is the result of impaired brain structure. It has already been stated that brains, deteriorated by idleness and brains weakened by general ill-health or toxins, are more liable to injuries and diseases. Tubercular bacilli, syphilitic germs, paretic cellular degeneracy, meningeal or other inflammations, hemorrhages from diseased arteries, occlusion of arteries, impair mentality; and so do direct acts of violence (traumatisms) of the brain. So central and so all-important are the brain functions in the economy of the system that active or extensive disease or injury of the organ promptly results in the death of the whole man. Extensive or very active diseases of the cerebrum are not often found

for that reason. The extreme strain of epileptic seizures in time produces or increases other abnormalities of the brain; and so do chorea and paralysis agitans gradually impair mentality.

Human mentality is such an exceedingly complex affair, and varies so much, that it is impossible to predict what result, in conduct and deportment, will follow the same general cerebral impairment, in different persons. Local lesions of certain tracts, it is true, will produce certain kinds of paralyses; but the same general agent or disease that affects the whole organ will be followed by different effects in different persons. Intoxication, for instance, by alcohol, within certain bounds, will produce different effects in different persons. When the inhibitory faculty, most delicately balanced, is temporarily impaired by such an agent, generally, inherent mental defects or tendencies are rendered apparent. Disposition, temperament, traits, habits of thought, or tendencies to abnormality, all give direction to the aberrant thoughts and conduct of a person whose mentality is generally impaired in any way. The same toxin in one person will give a result of mania; in another, of melancholia; in another, of confusion and dullness.

These facts, but briefly mentioned, complicate the investigation of the causes of psychoses.

It is not meant in this treatise to describe the pathology of structural diseases of the brain. A description and classification of the traits, symptoms and characteristics of abnormal mentality are all that is attempted.

SOME PHASES OF CRIME AS VIEWED FROM A MEDICAL STANDPOINT.

By S. G. C. Pinckney, M. D., of Atlanta, Ga.

During the last decade there has come under observation of the alienist a constantly increasing number of patients having pronounced mental changes, acute, sub-acute, or chronic, the result of drug habituation. So numerous have such cases be-

come that we now make most careful inquiries in all cases for this etiological factor. We are no longer content in acute or sub-acute insanities to take the word of relatives or the patient as to their use. It frequently happens that we search up associates, or make inquiries at the drug-stores where the patient has traded, and find that for a number of years the patient has been habituated to the abuse of some drug, the effects of which he has managed to conceal. Symptoms, obvious to the physician, are put down as simple eccentricities, or change of disposition, or attributed to business worries or cares, bad health, etc., which are in reality distinct manifestations of the use of an opiate or excitant. Occasionally, we are called in by the family to determine upon the possibility of a beginning insanity, only to find the patient using morphine, cocaine, bromide, or some of their combinations. Not rarely these habits become grafted upon a chronic alcoholic, and mental symptoms are attributed to that. The result here is that the case is treated as one of alcoholism, the alcohol withdrawn—not a very difficult proceeding, when a substitute is used—and, upon the failure of this treatment to give results, the patient is classed as hopeless, without any further effort being made to find a removable cause. Among the poor and financially irresponsible such cases are promptly sent to the State Asylum, generally being arrested on the charge of vagrancy, and committed for their peculiar actions in court. Among the well-to-do and wealthy they are on the contrary sedulously taken care of at home; and, as they have given up alcohol,—the supposed cause —they are allowed quite a degree of liberty, in which they always manage to obtain the drug. So matters go on for several years until some peculiarly glaring act compels a thorough investigation. Asylum commitment in either case, with its consequent inability to procure the desired relief, generally shows the real cause of the mental condition.

Unfortunately, by this time mental impairment has progressed so far, as a rule, that the best treatment fails to restore health. Isolated cases have existed and been noted for centuries; opium, in some form, being almost universally the cause among the English-speaking races. Until the introduction of chloral, opium and alcohol were practically the only self-introduced poisons that had to be reckoned with. Camphor, asafœtida, and the variety of aromatics are frequently used in excess by hysterical women. The mental symptoms,

however, are those of hysteria rather than any direct result of the drug. Chloroform has never been popular. Ether, as a substitute for alcohol, has in some localities a distinct vogue on account of its cheapness. The various coal-tar hynotics need scarcely be considered. One case of quinine habit that I observed underwent distinct mental changes, ending in a dementia, but the personal history was too vague to make it possible to bar out other possible causes. These and rarer drugs need not be considered here, nor need alcohol, as from its frequency and careful study it requires a place of its own; but morphine, cocaine, the bromides, and even chloral, are coming so rapidly into use as a substitute among those who would probably otherwise show a tendency to develop the alcoholic habit that they demand most serious attention.

Even the best balanced patients have not yet found out the advisability of moderation in their use. Once started, they push each drug to the highest limit. Countless generations of alcohol-consuming ancestors have taught us that it can be used in moderation with impunity, and a large proportion of the earth's population do so. Practically, every drug habitué is on a par with the confirmed inebriate. It is, of course, only a question of time when they will learn to cut the dose down to the immediate requirements of the system; and it is very probable that it will not be considered much more disgraceful to use small does than it is now for a man to take a moderate number of drinks. The nervous system, after a number of generations, seems to accommodate itself to toxins, and to react quite differently to their introduction than it did in the beginning. In a few years we may expect a decided change either in the insanity duration or type of insanity so produced. We will have an equivalent of the chronic alcoholic insanity, just as we now have of delirium tremens; and most unfortunately, unless the type changes markedly, a very dangerous class of people to the community at large.

Outside the minor differences which distinguish the mental changes and serve to differentiate the different drugs used, we have one broad set of hallucinations and delusions apparently common to all. A mental trend that is quite distinct in its way dominates the patient's behavior, and suggests his acts, and it is from this trend that the insane habitué will become a menace to society as a criminal. The very type of his hallucinations is that most prone to lead to deeds of violence,

for, we find quite regularly the character of the delusion to be of a persecutory nature, and the hallucinations to be of the most distressing and painful character; all suggestive of bodily peril, and naturally to be combatted by acts justifiable to him on the theory of self-defense. Violence must be met by violence. Escape must be procured at any cost. The intense suddenness with which such ideas come into consciousness precludes even the moderate self-restraint that we find in the paranoiac. During acute crises the patient is as little to be reckoned with as a case of delirium tremens or acute mania. Semi-logical as his reasoning appears, the obtrusion of constantly recurring hallucinations gives an apparent spontaniety to his acts, which are difficult to anticipate. The clinical picture is half way between an hallucinatory mania and a delusional monomania, the insanity varying with the acuteness. The more acute, the greater danger from the unexpected act; the more chronic, the greater danger from a more logical or semi-logical process of reasoning which is going on.

ACUTE CASES.

Acute attacks follow over-indulgence during a prolonged debauch, or a sudden withdrawal of the drug, or returning to its use after prolonged abstinence. Sometimes the introduction of a small amount of some other drug in conjunction will precipitate a crisis, practically about the same rules that hold good with alcoholic poisoning. Such acute attacks, though starting in more suddenly and with greater severity, do not differ much from a case of confusional dementia, save that the hallucinations and delusions are uniformly more painful, and the violence of the patient greater. They run a course varying from a few days to several months. Recovery is then complete, or is followed by the persistence of semi-formed delusions of the same nature, though not so severe, as in the subacute or semi-chronic type. The very violence of the onset insures these patients being promptly put under restraint. The greatest danger seems to be to themselves, as in a case of my own, who, in his efforts to escape an imaginary mob, pulled down a chandelier and was nearly asphyxiated before the door could be forced open. The hallucinations and illusions resemble closely those of delirium tremens. Where delusions are formulated at all, they are fragmentary, and shifting, having

generally something to do with a mob, and fear of personal violence. All efforts in such acute cases seem to be expended in an attempt to escape. The idea of resistance, or physical self-protection, rarely occurs.

Quite a typical history would be the following: A. M. for several years had been a morphine habitué, using it hypodermically, 15 to 25 grains a day. By diminishing the dose himself he ceased entirely, and for over a year took no drug. Returning to some of his old haunts at the end of this time, he used in a few hours about ten grains by hypodermic, returned to his home and retired. In a few hours, hearing a loud disturbance in his room, some members of his family rushed in to find him standing in the middle of the bed, brandishing a chair. He was incoherent, frightened, and wildly trying to protect himself. They had no difficulty, after making a light, in getting him to lie down. He cowered under the bed-clothes, begging piteously to be protected. For three days he was in a state of abject terror, occasionally making wild attempts to get out of the room, always accepting the idea of protection afforded by the presence of the family, and being partially quieted by their reassurance. There was marked incoherence, due apparently to rapidly recurring delusions and hallucinations. These were generally connected with a supposed mob or band of men outside of his windows. All portraits and looking-glasses had to be removed. On the third day he quieted down to an ordinary confusional dementia, which lasted for six weeks, after which time he made a satisfactory and rather rapid recovery. He has never returned to the morphine, nor, when I last saw him, had he any permanent mental changes. He could recall a large part of his illness, and from what he told me it would seem evident that the delusion was more systematized than we imagined, the apparent incoherency being due to the great rapidity of mental action at the time, and the rapidly changing illusions.

It is supposable that in his excitement in the commencement he might have accidentally injured some one with the chair. As a practical fact, however, it must be very rare that they do. The presence of people, even though strangers, has a distinctly quieting effect, and gives them a sense of protection against the illusory ones. After the first outburst, there is little trouble in treatment, if the patient is kept in bed, and an attendant constantly by their side. Only once has such a case attempted

to injure me, and that was while crawling through a transom to get into a locked room. Evidently there he classed me in with the illusory mob. The moment I touched him he appealed for protection.

This same picture, with slight variations, might well fit many other cases I have seen resulting from the use of bromide, or combinations of bromides, morphine, chloral, hyoscyamus, alcohol, etc. Such cases are infrequent in comparison with the more chronic types.

THE SUB-ACUTE OR SEMI-CHRONIC CASES.

It is in this class of cases that we have most to dread criminal acts, the result of delusions. The patient is up and around, generally follows out his routine business, and, so far as is seen up to the time of some special outbreak, does not differ from any other member of society. Very rarely the condition is but a continuation of an acute attack. Most frequently it is the result of chronic poisoning by the drug used; beginning insidiously, and progressing over several months or years before ceasing entirely. Some cases proceed to a genuine terminal dementia. The vast majority recover.

The patients at first develop delusions of suspicion. These delusions seem to be almost primary in origin, are vague and uncertain, and readily put aside. Within a few weeks they appear again, and are again dropped. They may so go on for several months. Then, in some particular attack, hallucinations and delusions occur. The patient is terrified, and attempts to escape. It is then but a short time before the mental state becomes persistent, and the suspicions never disappear. They are generally not focalized on any one person or set of events. They are of a painful nature, persecutory in character, very much like the early stages of the persecutory period in paranoia, though decidedly more illogical. Fears of being poisoned, of being locked up, or arrested, or confined in an asylum, or of having one's property taken away, are common, and the patient does not ascribe any reason for these fears. He knows of no act which he has committed that would warrant retribution. The source of the danger being unknown, he is unable to take any methodical means of thwarting the calamity. It is generally a mob, rather than an individual, that is about to injure him; in the South generally

a mob of negroes. No strategic defense being possible, it is obvious to him that his only safety lies in locking himself in his room, arming himself, and awaiting the dread event. Occasionally flight is resorted to, but this, like all other acts, is a purposeless one. Sometimes an appeal to a near neighbor, or, again, running away to a near-by city is adopted as a means of escape; and there he hides until his money is exhausted, when he generally appears in the vagrancy court to be returned to his relatives. At no time is there any appeal to constituted authorities for protection. Causation is so vague, even to the patient himself, that mere physical protection is all he asks for the time being. From this time on the illusions and hallucinations come and go.

Unfortunately, the delusion becomes more systematized, and after a few months we find the patient willing to talk on the subject, and inclined to ascribe his danger to some definite set of people. During this time the patient has regained a partial control of his actions. He is no longer as readily frightened. Fearing the worst, he yet nerves himself to resist to the best of his power. Still, with the instinct of seeking protection, he at the same time determines that, if the worst comes to the worst, he will sell his life as dearly as possible. He is more and more approximating the monomaniac. Consequently, becomes more and more dangerous, less dangerous simply because he has not formed any plan of retaliation, and because the hallucinations and delusions occur so suddenly that no time is allowed for anything but *immediate* self-protection. Yet all this time he is very probably carrying on business, even though it be in a half-hearted way. From time to time during this era, the physician is called in, his mental state appreciated, and he is put under restraint. Very frequently even then he is allowed his liberty on the idea that as he never has injured anybody he never will. Then, some day, an apparently purposeless crime, oftimes murder, shakes the community. In the cases of a few insane murderers, whom I have examined, it seems almost impossible that, with their past history, they could have been allowed their liberty.

When we get the man during this stage, we generally find that the cause of his condition is a mixed morphine and alcoholic toxemia. This, in my experience, has been the most frequent combination encountered. There is little danger to the

community from a case of this nature, provided it is recognized and taken care of.

Now, (provided the case is taken care of and recognized,) there is little danger to the community.) The presence of the physician and friends causes a sense of protection, which does away with the tendency towards acts of violence. Even though the patient still insists on retaining some offensice weapon for defense, no attempt is made to use it, or care taken as to its effectiveness. For instance, a case of my own, in fear of mob violence, after being removed from his barricaded house over to the Sanitorium, and there being reassured and quieted, still insisted on sitting up all night in a lighted room with a shotgun across his lap. He did not, however, take the ordinary precaution to see that the gun was loaded, and never made an effort to use it. The mere feeling of its possession, exactly like his feeling that some one was in the room with him, gave him a sense of protection. He ultimately made a good recovery, and at the end of the year returned to business, and has not since relapsed. This was a case of gradual substitution of morphine on alcohol.

If, on the contrary, such cases are not recognized early, and are not put under restraint, they constitute one of the greatest menaces we have to contend with at the present day. However mild the case may begin, the sudden and unwarranted appearance of frightful hallucinations and illusions may at any time precipitate a crisis. In looking back over cases which I have seen, I am more and more surprised at the narrow margin by which physical injury has been escaped. In case after case, some element, by chance, has arisen, which has just saved some unoffending individual from a maniacal attack. This immunity cannot last always. Occasionally, violence is actually resorted to, as in the following case:

R. S., a farmer, about 40 years of age; a good citizen; and, except for the occasional slight indulgence in alcohol, of the best habits, so far as known. This man gradually developed persecutory ideas. These first came in attacks lasting but a night at a time, in which he was content to barricade the house, and sit up all night, the principal delusion being that a combination of men were going to lynch him, for which he knew no cause. Three or four such attacks occurred at intervals. So far as could be ascertained, they did not follow any alcoholic debauch. One night in returning home from town, hallucina-

tions arose very suddenly. He believed that his wagon was surrounded. He carefully removed his boots, slipped out at the rear of the wagon, and, after hiding in a ditch for several hours, made his way home by a circuitous route. There he explained the circumstances to his wife, and waited in great fear until daylight. Reassurances seemed satisfactory for a time, but in a few weeks delusions became more persistent, and he disappeared from home. As far as he could be traced during that time, he went to an adjacent city, and wandered around the streets, spending his nights wherever he happened to be. It is not known whether he obtained any food or not. The first definite knowledge of his whereabouts came, when he boarded a car, went quietly inside, sat down, took out a knife, and cut the throat of the gentleman sitting next to him. In my examination I found the foregoing history, and a decidedly typical condition in the patient, such as would result from the use of some drug. What this drug was, I was unable to find out. Alcohol had always been most moderately used. The case was confined in an asylum, and, as I am told, made a good recovery. His mental condition, when seen just after the act, was the usual one found in persecutory manias. He had simply focalized his delusion upon the nearest individual, and had acted at once.

The alienist sees so many cases that it is unnecessary to give other cases than these two extremes in detail. How frequent the condition is, can only be appreciated by one who sees a great number of mild attacks. When we realize that the greater number of such patients will in time go on to actual unrestrained violence, the necessity of considering this type becomes of more importance to us. About a week ago I was called to see a patient who had just exhibited the first evidences of this condition, only to find her alone in the room, the front doors and windows all locked, and prepared to defend herself against some "white man," who was coming to injure her. She had focalized her delusion down to this only a few weeks after the family had first noticed anything was out of the way. Luckily, she recognized my voice, but I am afraid, had it been a stranger he would have fared badly. This is but one of many narrow escapes that some unoffending individuals have had in the cases I have seen.

It is a very interesting and serious question, soon to be thrashed out in the courts, as to just what the legal liability

of such a case is. That the broad grounds of the law, covering insanity in general, will apply in a vast number of cases is undoubted. On the other hand, we must remember that the only self-introduced poison of which the law takes cognizance—that is alcohol—seems to be placed in a class by itself. Legally, a man is responsible for a murder committed while drunk. No matter how many times the man may have been drunk before; no matter what delusions he may have suffered from, provided these do not so prominently crop out before the act was committed that he is almost by common consent called insane, he is still considered legally liable to punishment for a crime committed in what may be but apparently an acute drunken state. There is not the least doubt but that many acts committed, while apparently simply intoxicated, are but the natural outcome of persistent delusions long settled in the patient's mind; that in reality we are not dealing with an individual drunken act, but with an exacerbation of persecutory insanity. If the class of patients which I have described have any legal status, it must certainly be in the same class with alcoholism, and it will not be long before the State's Attorney will be inquiring as minutely into the drug habits of a man as into his alcohol habits; and, however unreasonable, apparently, will be demanding conviction for crimes committed, while in this state.

To summarize the conclusions: It seems to me that we must admit that with the constantly increasing use of drugs, and the consequent increasing number of cases of persecutory mania, we are facing a new element in crime The present immunity granted from acts of violence is very probably due to the fact that acute states of poisoning are frequent, because the nervous system has not yet, through several generations, accustomed itself to the use of drugs as it has to the use of alcohol; that in a few decades more we will see a more rational use by the habitué of his drug; consequently a more chronic and, therefore, a dangerous type of insanity; and as chronicity seems to even more systematize the delusion, to still more focalize it, as it were, on some definite individual or individuals, we can only expect a great amount of danger to life.

It has been suggested that as a vast majority of the so-called alcohol and morphine cures depend on the use of hyoscine or bromide in large doses many post-alcoholic or opium insanities may be due to their use rather than the original drug.

This has not been my experience. I have seen infinitely fewer cases follow withdrawal, when treated by one of these drugs, than when treated by sudden withdrawal, or rapidly reducing doses, without them.

In closing, I beg to present my thanks to the officers and members of the Association for their most courteous invitation, and also to express my pleasure upon being able to be with you.

DISCUSSION.

Dr. Wyman: "It is not my purpose to enter into a discussion of the very valuable contribution submitted by Dr. Searcy. I desire to say in connection with this paper that his classification appears to me to be one of the most perfect that I have seen. There has always been a difficulty in the minds of the writers upon insanity to give us a classification by which we could study the different types of the insane. Dr. Searcy has certainly given us an excellent classification, and his paper is one that I think the general practitioner should read, because we are all called upon to differentiate between the different types in the courts, and we ought to have some conception of the type of insanity with which we have to deal. Of course the general practitioner has very little to do with the treatment of these cases; they get rid of them as soon as possible, they send them to the hospital, but we should have a practical working knowledge of the classifications of the different types of insanity, and I think that Dr. Searcy deserves the thanks of this Association for his valuable paper. Now, a word with reference to the appearance of insanity which results from the use of intoxicants, the subject that Dr. Pinckney has so ably discussed. That is a very practical subject; the doctor is very often called upon by the courts to explain the effects of narcotics upon the brain. It is a question with which the courts are not familiar. The prosecuting attorney, the judge of the bench, is not familiar with the effect of drugs upon the mind, and we, as practicing physicians, are expected to make them understand the symptoms and the conditions which follow the excessive use of drugs. Now, the question of the responsibility is a very important one. Dr. Pinckney has shown you that alcohol produces acute delirium and disturbance of mind, and the question which courts have to determine is whether or not there is a permanent or a temporary

condition of insanity. Now, ordinary insantiy is more or less chronic; but ordinary, acute delirium, as a rule, is not an excuse for crime. We do not have temporary insanity in the legal acceptation of the term. We, as physicians, understand that in temporary derangement it is, in many instances, an acute form of insanity, as delirium tremens from the excessive use of alcohol; but, ordinarily, it is not considered insanity, and yet a man is wholly irresponsible when suffering from acute delirium of that sort, so that it is well for the physician to draw these distinctions in the courts, and explain what we mean by insanity proper and acute intoxication. That is the question. Now, my experience with acute intoxications is that they are temporary, and that these acute attacks are promptly recovered from, so it is very important for us to differentiate, I think, between acute delirium and the condition which results from the habitual and long continued use of alcoholic and other narcotics."

Dr. Kernachan: "It is well to be here. This applies, not only to the good physicians of Mobile who have so kindly entertained us, but applies to every man who had the good fortune to listen to Dr. Searcy's paper. It is a rare thing at my home that there is not an insane person in jail waiting for transmission to the insane asylum, for that asylum is so small that there has to elapse two or three months of correspondence to find out whether he can be received or not. Three miles from my home we have what we call a county farm; they call it a poor house, and it is a poor house, too. By personal observation, I know that at least one-half of these people are mentally incompetent to make a living. Instead of being incarcerated in this prison, they should be cared for by the State with all the tenderness and kindness that is possible.

Now, gentlemen, one Christmas a year ago, when the Christmas trees and bright eyes of the children were saying, "Peace on Earth Good Will to Men," I was summoned to see a man who, unfortunately, had not cut his throat. He had done all in his power to do it; in other words, he had slashed it from ear to ear, and was so unfortunate as not to die. This man, gentlemen, went into the civil war at its opening, leaving a wife and child at home. He never owned a slave in his life. When he came back, he returned with the stripes of a lieutenant on his shoulder, due to individual bravery. Unfortunately during his later life, he had a female child born into his family

that was a paralytic from its neck down, that child living to the age of 33 years. During this time, not only the mother of the child died, but the grandmother, and in this condition it was left to him solely to care for. With advancing age, his powers of accumulation and health gradually disappeared. Let me portray to you the horror of it. During her periods of menstruation, it became necessary for him to cleanse her. It is a horror almost beyond our conception. There was application made from one end of the United States to the other; I do not apply it to this State, but it was made throughout this whole country, to receive this helpless child. Finally, when all his means were exhausted, he goes to a drug-store—I do not know why it is fashionable now, but carbolic acid is generally the agent of suicide—he gives one ounce to this woman thirty-three years of age, and takes the other ounce himself. Despairing at the length of time which it takes to produce death, he took a razor and tried to put an end to it. I was called to see him. There was nothing to be done except make cosmetic preparation for burial. The result was that he died within three hours. I wish to offer a resolution, which I will ask the Secretary to read. I want to ask the Association if we are going to leave here without doing something for these poor miserable people. Our laws today, as we all recognize, are made for him that hath; for, they that hath not, even that already has been taken away. In this state it is not an exaggeration to say that if you have money and friends, you cannot be punished. You may have your club-house, you may gamble in there, but let the miserable little negro or white boy be caught on the sidewalk "shooting craps," and he is put on the streets and disgraced in some way that is absolutely horrible. I wish to make a last appeal for these people by offering this resolution for your endorsement:

" 'Resolved by the State Medical Association, That the Legislature is urged to make suitable appropriation for the construction of a hospital sufficient to keep the insane of this State, and to provide suitable methods of superintendence therefor.' "

This resolution was referred to the State Board of Censors.

Dr. Blake: "I wish to say only a word or two; some of the physicians who have preceded me have already made my speech, but I want to say, in addition, that the people of Alabama are to be congratulated on the services they are now receiving at the hands of Dr. Searcy in the management of the

insane hospital. It so happens that I visited Tuscaloosa recently in the interest of a patient, or the family of a patient. I saw everything clean and in good condition that was hardly to be expected under the circumstances. Later, I spent a night in the asylum at Mount Vernon—"the hospital,"—as the doctor has called it, and there are in it 450 insane negroes. It was as quiet as any place I have ever seen. In fact, the most apparent noise that was being made was the singing of a nightingale, or whippoorwill, just across the wall, and I think I can account in part for some of this quietude. I was served at supper by these same patients, at dinner by these same patients, and I noticed that we had a large mass of vegetables produced on the grounds by the patients themselves, and I could not see why they could not sleep well under such circumstances! We physicians are so scattered over the State that we can do a great deal in two directions towards helping in this management. In the first place, we can do as suggested by Dr. Kernachan; and in the second place, we could talk with our Legislators of the various counties, and urge on them, individually, the importance of these institutions and their worth to the State. The people over the State do not know the humane treatment, the very wise management, and the care and kindness insane people receive who are sent to this institution, and we could aid Dr. Searcy by informing the people on this subject. I also want to join in thanking Dr. Pinckney for his visit to us and for his contribution."

INTESTINAL OBSTRUCTION DUE TO MECKEL'S DIVERTICULUM.

By J. Norment Baker, B. A., M. D., of Montgomery.

Member of The Medical Association of the State of Alabama.

The case herein reported died very promptly—fifteen hours after the operation. But this fact should not detract from its interest; on the contrary, it should serve to impress this lesson, viz., the importance of the early recognition of grave intestinal

lesions, and of prompt surgical interference for their relief.

True intestinal obstructions—such as intussusception, volvulus, constricting bands, and the like, represent true derangements of a mechanical apparatus, which can be relieved only by mechanical means. The degree of success attending surgical intervention in these cases is directly proportionate to the promptitude with which an early diagnosis is made. That is to say, cases early recognized and relieved, before the manifestations of gangrene and peritonitis assert themselves, offer a comparatively low mortality. No less an authority than Sir Frederick Treves says: "There is no avoiding the fact that acute intestinal obstruction, if unrelieved, ends in death. Operation, in these cases, is too often regarded as a *last* resource; it should be the *first* resource, as it certainly is the *only* resource."

In brief, the history of this case is as follows:

Male, 29 years of age; family history, negative. Upon close inquiry it was ascertained that the patient had suffered from previous similar attacks, which he termed "attacks of colic," and that, on several occasions, he had relieved himself with morphine taken by the mouth. These attacks had been transient, and no particular attention had been given them. There was no history of constipation.

On the night of January 14th he was suddenly seized with cramp-like pains in the abdomen, nausea and vomiting; the pain was severe, general in character, and radiating over the abdomen with the umbilicus as a focal point. These symptoms persisted until relieved several hours later by an hypodermic of morphine.

A mercurial purge was ordered by the attending physician. The following morning the symptoms still persisted, and the bowels failing to move, a saline, together with several enemas were given, which latter emptied the lower bowel of much fecal matter, though no through and through action was obtained. The symptoms, however, increased in severity, and could be controlled only by the use of morphine. On January 17th the vomiting became distinctly stercoraceous, and the tympanites marked. The attending physician realized the gravity of the case, and insisted that he be carried to a hospital where surgical aid could be had. This the patient refused. Finally, on January 19th, he consented to the operation and

was brought to Montgomery, and at once sent to St. Margaret's Hospital.

I saw him first on January 19th, 7 p. m., five days after his illness began. At this time his pulse was 100; regular, and of fairly good volume; temperature 100. The abdomen was considerably distended, though not symmetrically so, the meteorism being more marked in the upper zone, especially the upper left quadrant. Both iliac fossæ elicited a dull note on percussion; the point of maximum tenderness seemed to be in the left iliac region, though the area over the caput coli was also quite sensitive to pressure. The vomiting was frequent, regurgitant, and distinctly fecal—ominous signs of a diffuse, if not general, peritonitis. The diagnosis of acute intestinal obstruction was confirmed, and immediate operation decided upon. The stomach was washed out with a warm saline solution, a hypodermic of morphine and strychnine given, and the patient carried to the operating room. Chloroform was the anæsthetic selected, as being less likely to cause subsequent unpleasant complications.

A liberal incision was made in the median line, from the umbilicus toward the symphisis. Upon entering the cavity there was quite an escape of bloody serum. The hand was passed to the inguinal and femoral openings, to make sure that no loop of gut, too small to be detected from the outside, had become incarcerated at these points; these being found clear, the appendicular, and then the sigmoid regions were palpated; both of these were found in normal condition. Locating a section of small intestine which appeared much inflamed and distended, this was traced down toward the ileo-cæcal valve. Some ten or twelve inches above this point, the contriction was located. A strong band of adhesion was found to almost completely encircle the lumen of the gut binding also a pouch-like sac springing from the walls of the intestine. This sac, some three or four inches in length, and about three-quarters of an inch in diameter, was Meckel's Diverticulum. This diverticulum was very deeply congested and swollen, as was also the intestine for some distance above the constriction.

The patient's condition, at this time, became very serious, and a rapid operation was executed. The constricting band was severed and one or two hard fecal balls which were found in the distal end of the pouch were returned to the small intestine. Upon releasing the constriction, the bowel below

filled up somewhat with gas. The grave condition of the patient did not warrant the removal of the diverticulum, so a hasty toilet of the peritoneum was made, the wound closed with through and through sutures, and the patient returned to bed in an almost pulseless state.

Intravenous saline infusion was practiced, under which the pulse improved for a time. The patient reacted, in a measure, from the anæsthetic, and several attempts were made to move the bowels by high enemata, but without success. The vomiting continued, the tympany increased, and the pulse grew gradually weaker; the patient died in about fifteen hours after the operation of a general peritonitis.

Meckel's diverticulum, as ordinarily seen, is a tube—of variable length and size—springing from the lower portion of the ileum, from one to four feet from the ileo-cæcal valve. In structure it is similar to the small gut. Its length varies considerably; the case under consideration representing the average length—from four to six inches.

Sometimes, however, it persists as a patent duct quite to the umbilicus. Such is the case in the umbilical fistulæ of the new-born, which may give rise to no symptoms other than a slight fecal discharge; or it may become prolapsed, and give rise to a decided tumor.

Reverting, for a moment, to the embryology of this tube, we find that it is the remains of the omphalo-mesenteric, or vitello-intestinal duct, through which, in the early embryo, the primitive intestinal canal communicates with the yolk-sac, or umbilical vesicle. From the fourth to the sixth week of fetal life the abdominal plates close, thus cutting off this tube. Most often, this duct, being now devoid of function, atrophies and disappears; though, not infrequently it persists for a greater or less length as an open sac, communicating at one end with the small intestine, while at the other it dwindles into a mere cord, known as its terminal ligament. This ligament, being free, often attaches itself to some adjacent structure—either the abdominal parieties, the omentum, the mesentery, or some portion of the intestinal canal.

This ligament is generally supposed to represent, not the vitelline duct, but the vessels which accompany it, in a varying state of atrophy. The relative frequency of the point of attachment of this cord is shown by the following figures, taken from Treves:

In twenty cases, it was attached to the umbilicus in seven, to the mesentery in seven, to the bladder in one, to the femoral ring in one, to the small intestine in one, and to the cæcum in one. By such attachment, it is easily seen how an arch or bridge is created, under which one or more coils of intestine may fall, and thus become imprisoned.

Or, as is not infrequently the case, the diverticulum itself acts as a band, just as an inflammatory band of adhesion produces obstruction in a loop of intestine.

In the case under consideration, the terminal ligament was attached to the mesentery; the diverticulum—sharply bent upon itself—together with this ligament, formed a ring which held a small loop of the ileum.

Attached diverticula more frequently give rise to disturbances than those in which the distal end remains free. In the latter instance—that is, where the distal end remains free—the diverticulum may become invaginated into cavity of the small intestine, thus producing intussusseption. Travers reports an interesting case in which a short diverticulum was the cause of a fourteen-inch intussusseption of the small bowel.

Or, a large and heavy diverticulum may, by sheer weight, produce such acute angulation of the intestine at the point of attachment as to cause obstruction.

As to the frequency of occurrence of this diverticulum, Trevers states that it may be expected in about two per cent. of all cases examined. In 3,400 cases examined at St. Bartholomew's Hospital, it was found 27 times, or about one in every one hundred and twenty-seven cases. Kelynach found it present 18 times in 1,446 post-mortem examinations. Gibson, of New York, in a report of 1,000 cases of acute obstruction from various causes, cites 47 (nearly 5 per cent.) as arising from this source. These figures clearly show that Meckel's diverticulum is no mean factor in the causation of acute intestinal obstruction. Kelynack's statement that this process is a harmless affair, does not hold good; this conclusion is based on the fact that, of the 18 cases found by him, in no one of them was it the cause of death.

The symptoms of obstruction from a diverticulum are very similar to those of obstruction from any other source. They are also quite like those of a virulent type of appendicitis, and the latter diagnosis is frequently made. This mistake is a very natural one, when we pause to consider the location of this di-

verticulum, and the fact that it is nearly always found in the right iliac fossa.

To make, with any degree of certainty, a differential diagnosis before opening the abdomen, is quite difficult, and is, perhaps, not essential. Moore states that localized meteorism in the right inguinal region in a young male patient is strong presumptive evidence of obstruction from this source. As a matter of fact, in my case, this area was pronouncedly dull, owing to the collapsed gut occupying this region.

Halstead, of Chicago, in an exhaustive treatise of this subject in the Annals of Surgery, (April, 1902), gives the following points as evidence of obstruction from this source:

1. The age of the patient; occurring usually in children and young adults. 2. The history of preceding minor attacks. 3. The configuration of the abdomen, which is that of an inverted cone; this being due to obstruction of the upper portion of the intestinal tract. 4. Local meteorism, especially upon the right side of the abdomen, under the costal arch. 5. Fæcal vomiting, as a rule, comes on early. 6. Tenderness in the right side, on a level with, or just below, the umbilicus.

The diagnosis as to Meckel's diverticulum being the *probable* cause of the obstruction, is to be reached rather on the grounds of exclusion. If, from the history of the case, and the clinical picture exhibited, appendicitis, strangulated hernia, volvulus, and intussusception can be reasonably excluded, then, from the relatively frequency of its occurrence, Meckel's diverticulum is to be seriously considered.

Accuracy in diagnosis is always to be desired; yet, valuable time should not be whiled away in the effort to differentiate between the various forms of true intestinal obstruction. The foremost point to be decided is—does true obstruction exist? If so, then the course to be pursued is a clear one. The high enemata and cathartics—measures of value in false obstruction —are baneful in true obstruction, and are to be discarded. The line between these is oftimes difficult to draw; in false obstruction, the picture presented is by no means so grave. The temperature is almost, or quite, normal; the pulse is not seriously disturbed; the tympany, rigidity, and tenderness are not so marked; the facial expression—so characteristic in serious abdominal lesions—is usually absent in false obstruction. Blood-good, of Johns Hopkins, attaches importance to the high leucocyte count as a means of differentiating between these two

conditions; the high count being absent in the false variety, while it ranges from 15,000 to 20,000, or even 25,000, in the true.

As to the treatment of all forms of true obstruction, there is but one—early operation. If it be due to Meckel's diverticulum, this pouch should be removed, if taken sufficiently early, and the patient's condition will allow; for if it be permitted to remain in the abdominal cavity, it continues a menace to life, just as a diseased appendix.

If the patient's condition is grave at the time of the operation, sumply relieve the constriction; later on, if deemed advisable, the diverticulum may be removed. If the gut be gangrenous, then an anastomosis should be made, or else the intestine stitched to the abdominal wall and a fæceal fistula established.

In conclusion, I would like to make a general statement, and to emphasize it, to this effect: That in the presence of sudden and acute symptoms, which include severe abdominal pain, pronounced rigidity of the abdominal walls, and collapse, do not waste time in speculation as to the character of the lesion. This triad of symptoms constitutes an exacting demand for abdominal section, followed by such suitable measures as the case may call for or permit. No such case as would be lost without on operation, would be lost in consequence of it, while every such case must, of necessity, prove fatal without it.

Of these cases, as of most others, in the hands of competent men, it must be said that they *die in spite of the operation, and not because of it.*

TYPHO-MALARIAL FEVER.

By W. F. Betts, M. D., of Evergreen.

Member of The Medical Association of the State of Alabama.

The term, Typho-Malarial Fever, was introduced into medical nomenclature by Surgeon J. J. Woodward, of the U. S. Army. The following extract from the proceedings of the International Medical Congress, at Philadelphia, in 1876, will show the interpretation of this term by Woodward: "On mo-

tion of Dr. Woodward, seconded by Dr. Pepper, the following was adopted as expressing the opinion of their section:

"'Typho-malarial fever is not a specific or distinct type of disease, but the term may conveniently be applied to the compound forms of fever which result from the combined influence of the cause of malarious and typhoid fever.' In the National Medical Review, of May, 1898, Woodward states that 'Typho-malarial fever is not a special type of fever, but represents a group of hybrids between typhoid and malarial fever."

J. M. DeCosta (International Clinics, vol. ii, 7th series), states that at this time there have been four undoubted instances in which the co-existence of malaria and typhoid has been actually proved by microscopical blood examination. These, at least, are all that it has been possible to find on record.

Loomis (Practice Medicine, 1890), says: "This fever is produced by the combined action of a septic and malarial poison. In some the septic element predominates, and in others the malarial."

Dr. W. G. Harrison, of Talladega, in a paper read before The Medical Association of the State of Alabama, in 1900, reports a series of twenty cases of typho-malarial fever. After making something like 200 blood analyses, and 100 urine analyses, and watching the cases closely, he arrived at a final diagnosis as follows:

Twelve cases were a typical typhoid fever; five, a typical malaria of the æstino-autumnal type; three, a combination of the two.

Unfortunately, I have not been prepared to make the necessary microscopical examinations of the blood in the cases which have come under my observation.

The diazo-reaction test of Ehrlich has as often failed to give a positive as a negative result; so, in making a diagnosis, I have had to depend solely upon the clinical history and symptoms, as do the majority of physicians in the country and small towns.

According to the report of Dr. Harrison, some of his cases were a typical malaria, some a typical typhoid, and some a combination of the two.

None were typical cases of either malarial or typhoid fever, and from their symptoms, could not be diagnosed as such. Whether the disease is caused from a hybrid germ, or whether

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it is caused by the two poisons of malaria and typhoid, operating at the same time on a patient, the one being modified by the other to such an extent as to cause a group of symptoms resembling both diseases, but not characteristic of either, I cannot say. However, it is certain that we do have a disease to contend with which it is impossible to diagnose as either malaria or typhoid fever in some respects. This being the case, in order to prevent confusion, why not call the disease as it was formerly called, typho-malarial fever? In an experience of twelve years' practice in Meridian, Miss., and in the counties of Conecuh and Monroe, Alabama, I have never seen a case of fever giving all of the symptoms of typhoid fever, and I believe that it is extremely rare in this section of the State.

History: The patient usually complains of not having felt well for several days before taking his bed, but of having had no fever, unless a little at night, and that he was able to attend to his usual duties. Generally there is a history of headache, aching in the bones, back, and legs, a bad taste in the mouth, and a poor appetite, which precedes the fever for several days.

The fever may or may not be ushered in by a chill or rigor. Usually the fever runs higher when preceded by a chill, and oftentimes rises to 104° F. or 105°F. within a few hours after the chill. I have seen the temperature as low as 102°F. in the beginning of the attack, and never rise much above that during the illness.

The temperature of the first day will usually indicate the maximum temperature to be expected during the first week. Occasionally the fever rises some during the first week, but not gradually, day by day, as in typhoid fever. After the chill, or with the first appearance of the fever, the patient becomes nervous and restless, and the pulse generally full, bounding and fast, although occasionally it will be very little, or not at all, accelerated.

As a rule, the headache is severe, as is also the aching throughout the body. Nausea and vomiting may or may not be present. The tongue may be large, rounded, flabby, and heavily coated; or it may be thick, pointed, coated in the middle, and red around the edges and sides. By some the red edges are said to indicate a predominance of the typhoid symptom, but I have never been able to see that the appearance of the tongue in the beginning ever forecasts the type the disease will assume. The liver is usually enlarged, and the spleen occasionally so.

During the first week the temperature generally runs about as on the first day, dropping a degree or two at the end of the week, and running that much heavier during the second week, again falling at the end of this week, and gradually decreasing during the third week, until the twenty-first day, when it usually reaches normal. In some cases the fever lasts four weeks, and I have had two cases in which it lasted six weeks, and in these cases the fever was never high, nor the disease severe.

I have noticed that two distinct remissions occur during the twenty-four hours, usually early in the morning and between 6 and 9 p. m.; although they may occur at different hours in the same patient during the course of the disease.

During the last week of the fever there is an intermission at night, which lasts from one to three hours, and in the cases in which the fever lasted six weeks, the temperature for two weeks before the termination of the fever would be normal nearly all of the night, rising in the morning. Diarrhœa, in my experience, has been rare, although often present in the course of the disease. Tympanites I have always found to occur at some time during the fever.

A few of my patients vomited quantities of bile, and had bilious discharges throughout the entire illness; while among the larger portion, nausea was present only in the beginning of the disease, and but little bile passed after the first few days. The tongue, in some cases, became dry, brown, and cracked, while in others it soon cleared off, and was moist.

In a small percentage of my patients I have had delirium and mental hebetude, but I have not found this to occur often, and nearly all of the patients have been mentally bright, without the slightest sign of stupor. Hiccough, and epistaxis sometimes occur, but not often. Some of the patients were extremely nervous where no stupor or delirium were present, but generally they rested very well, and were not nervous.

Diagnosis: From typhoid fever, by the sudden onset, lack of the typical gradual rise of temperature, and the absence of the rose-colored eruption.

There is one disease which resembles the beginning of typho-malarial fever so closely that I have found it impossible, in the beginning, to make a differential diagnosis. This is what is generally termed a "bilious attack," with fever. I have seen two patients taken exactly alike with a chill, followed by high fever, nausea, aching, etc., and under the same treatment of free pur-

gation and quinine, the one would be practically well and clear of fever in twenty-four to forty-eight hours, while the other would have fever continuously for three weeks.

The following cases which occurred in my practice will give an idea as to the different types the disease assumes:

Case I.—Was called January 5, to see R. G., white, age 28, who gave a history of much exposure to the night air, and to the bad weather for the past month or two. For a week previous to taking his bed, he had suffered from headache, pains in the back and legs, and a general aching of the body at night, but would awake in the morning feeling fairly well, and would work as usual during the day. He took his bed January 4th, the day before I first saw him. He had no chill or rigor; January 5, temperature 102 3-5°; pulse, 72, full and regular; liver, 1-2 inch below custal margin; spleen, normal; skin and eyes of a bilious hue, and almost, but not quite, jaundice; tongue, large, flabby, and coated all over, without redness of edges; pain in the head, and severe pain in the back, and a general aching of the body. The temperature ranged between 102 and 104°F. during the first week; it then ran a degree or two lower the second; and began to intermit during the third week, and became normal at the end of this week. The first intermission was at 1 a. m.; the second was at 7 p. m. on the following evening; the third at 1 a. m., the temperature rising to 101 3-5° F. at 6 a. m., and dropping to 99 1-5° F. at 10 a. m., and again reaching normal in the evening.

This patient vomited and passed quantities of bile nearly every day during his illness. There was no diarrhœa, but he passed one-half to one ounce of blood per rectum once, presumably from piles. He was extremely nervous, and restless, but not delirious, and suffered with pain in the back whenever the fever rose. The tongue became dry and parched, and the dryness of the tongue and mouth would often awaken him. Nausea was quite constant, and there was very little tympanites. I examined closely for the rose-colored eruption, but found none. The pulse ran from 72 to 78 during the course of the disease, and was always full and strong. Patient relapsed after ten days, and had fever two weeks longer, but was not so nauseated or bilious as during first attack, and soon made a complete recovery.

Case II.—Minnie J., age 10, white. Had been visiting in Birmingham, where she was taken ill. She gave a history of

not having been well for several weeks. She had a chill, followed by a temperature of 104°F. Was put on the train and brought to Evergreen, where I saw her on the second day of her illness. Upon examination, I found temperature 104° F., respiration, 25; pulse, 120, full and regular. The tongue was coated in the middle, and red around the edges. This patient complained of considerable aching in the legs and thighs, which lasted several days.

The temperature was reduced by febrifuges and ice water, but ranged from 102° to 104°F. during the first week; ran a little lower the second, and began to intermit at night during the third. The temperature was generally lower at 6 a. m. and 9 p. m., and highest at 11 a. m. and 5 p. m. There was very little nervousness, considerable tympanites, no diarrhœa, no delirium, sordes, or rose-colored eruption. The tongue cleaned after the second week, and was never very dry or cracked. She had a severe pain in the right iliac fossa on fourth day, which I diagnosed as catarrhal appendicitis, and which was relieved in three days under the ice bag treatment. This case was dismissed at the end of the third week.

Case III.—A. R. H., negro preacher, age 40. He gave a history of nasal catarrh, and of having had, some years ago, partial paralysis of the left side of face. Had been unwell for three or four days before taking his bed; no chill; temperature, 104°F., pulse fast, and tongue coated, large, and flabby; liver somewhat enlarged; temperature ran moderately high during first week, but reduced at the beginning of the second, and thereafter never ran high enough to require much treatment. During the third and fourth weeks, the temperature would come and go at irregular intervals. The pulse varied from 100 to 120, and the respiration from 12 to 24. Delirium set in at the beginning of the second week, and at times became so violent as to call for restraint of the patient. These attacks were followed by stupor and mental hebetude, the patient lying with the eyes partially closed and the mouth open and breathing stertorously, but could be aroused to take medicine and nourishment. There was a tendency to constipation throughout the illness and considerable tympanites. There was some eruption in the back and face, but more on the abdomen. On account of the color of the patient I could not tell the color of the eruption. As I gave him potassium iodide for suspected syphilis, the medicine

may have caused the eruption. About the tenth day a most violent case of hiccough set in, which lasted almost continuously day and night for five days, but which was eventually relieved. There was no hemorrhage. This patient showed considerable mental hebetude some time after he was clear of fever, and the convalescence was slow and protracted, but he eventually completely recovered. The prognosis in the cases which do not show much marked typhoid symptoms is extremely good. It has been my experience that with careful nursing and good medical attention the cases corresponding to cases No. I and II will all get well.

When the typhoid sysmptoms predominate as in case No. III, the prognosis is more unfavorable..

The injection of solid food, and the administration of drastic purgatives during the second and third weeks, I believe, are responsibe for nearly all the cases of hemorrhage from the bowels which we meet with in this disease, and which is usually the cause of death.

Woodward's statistics show that in 49,871 cases diagnosed as typho-malarial fever among the white forces of the United States Army during the civil war the mortality rate was 8.13, while the death rate among 75,368 cases diagnosed as typhoid fever the death rate was 35.89, or 4½ times greater than in typho-malarial fever. Among the negro troops the death rate was 3½ times greater in typhoid fever than in typho-malarial fever.

Treatment: Free purgation during first week with calomel, blue mass and podophillin. Quinine, gr. 5, every four hours, acetanilid, gr. iii-iv every 2, 3, or 4 hours as necessary to keep temperature below 103°F. I sometimes employ sponging with ice water to reduce temperature and (often) continue its use with that of acetanilid. If the quinine causes much nervousness, (tinnitus aurium) or nausea, I either leave it off entirely or decrease the size of the dose. I do not believe quinine has any tendency to shorten the course of the disease, or if any, very little; but, in combination with some of the antipyretics, it aids in controlling the temperature. I have used acetanilid constantly for twelve years and have never seen any ill effects from its use when given in the above mentioned doses. Tilden's liquid antipyretics, on account of the caffeine contained in it, makes a safe antipyretic, and I use it when I care to give the medicine in liquid form. After the first three or four days, and as soon

as tympanites develops, I put the patient on calomel, gr. 1/8-1/4 and podophillin, gr. 1½, and salol, gr. v, every four hours. Their combination keeps the liver stimulated and the secretions in good condition, and also acts as an intestinal antiseptic. Sulpho-carbolate zinc in 3-5 grain doses may be added when it does not produce nausea. Turpentine stupes over the bowels, and turpentine administered internally in ten minim doses, every 4-6 hours, helps to control the tympanites. In some cases I have found acetyzone to act better than salol; in others I have not seen that it gave any better results.

For nervousness hyoscine hydrobromate, gr. 1-100, repeated in 2, 3 or 4 hours, or as indicated in some patients, gives excellent results; in others the Fld. Ext. of passiflora incarnata, with sodium bromide, or potassium bromide, acts better. For delirium, bromidia, or morphine and atropine, the Fl. Ext. passiflora and potan, bromide act well. For excessive dryness of the tongue and mouth, I have gotten good results from pilocarpine in doses of gr. 1-12-1-16, as indicated. The only troublesome case of hiccough I have ever had to contend with was the one mentioned in Case III. Here, I used glonvin, morphine and atropine, chloroform, Hoffman's anodyne, ammonia, tr. valerian and aromat, spirits of ammonia; the three last in combination without any marked relief. Inhalations of armyl nitrite would give relief from one to two hours, during which time the patient would sleep, but upon waking the trouble would return as bad as ever.

Finally, after trying everything that I could find recommended in my medical works and using the various remedies suggested by brother physicians, I almost despaired of finding anything which would give relief. At last, concluding that the trouble must be a reflex one, I thought of the nasal catarrh, which had received no attention thus far, and decided that it might be responsible for the trouble. Accordingly, I decided to irrigate the nares with a normal saline solution. The patient was hiccoughing violently and incessantly while I prepared a solution of a teaspoonful of table salt and a pint of warm water; the moment the water passed through the nostrils he stopped, and the hiccough did not return again for eight or nine hours, when it came on for a few minutes and stopped, not to return again.

I have never seen this treatment recommended, although it may have been reported; and as it was the only time I ever used

it, I cannot say whether it would be of any benefit in any other case or not. I simply report the treatment and its result in this case for what it is worth. The diet should be strictly liquid, such as sweet milk, butter milk, chicken water, thin gruel, beef tea, eggnog, and milk punch. I instruct the patient to drink freely of cold water and thereby help to remove the waste products of the body and poison of the disease through the kidneys and skin.

I believe that the reason that I have had so little diarrhœa to contend with has been because of the continual administration of the small doses of calomel and podophillin throughout the illness of the patient. Last year I was told by other physicians in our town that they had diarrhœa to contend with in nearly all of their cases of fever, whereas, I did not have a single case; and the only reason I can account for its absence was because of the use of the calomel and prodophillin, for otherwise our treatment was practically the same.

Whatever the course of this disease may be, we certainly have reason to be thankful that it is so amenable to treatment, and that the death rate is so low.

DISCUSSION.

Dr. Trammel: "I do not think that anybody present can discuss that paper but the man who wrote it. I know it is a good paper for the gentleman comes from Evergreen, where they do not have anything but good doctors. I do not know him—have not had the pleasure of his personal acquaintance, but I know Evergreen, and I know some of the older doctors there, and I think that I can safely say that it is a good paper; but to discuss it I could not. I was listening to hear all I could, but I did not hear a word, and I do not think the author understands the difficulties of talking in this room. I want to accuse the speakers and the readers of very poor articulation. Make yourselves heard out here; talk to that man down at the door. It was worth a good deal to me some years ago to hear Governor Stephens speak just three words. The old members of this Association perhaps knew Governor Alexander Hamilton Stephens. He was a small man in stature, but he was a giant in intellect, and he would make himself heard all over this audience in a whisper. He had a way of doing that. Now, if somebody heard the reading of that paper on "Typho-Malarial

Fever," and will discuss it, then I will try to discuss him—if I hear him."

Dr. Fondé: "I have listened to the paper with some interest, and have had the opportunity to treat a great number of cases of typhoid fever in persons who were pretty generally infected by malaria. At the General Hospital of the United States Army at Long Island, there were twenty thousand men, and the better part of them were infected by malaria. I was in an annexed hospital, and together with Major Crum, of Cincinnati, we made quite a number of microscopic examinations of the cases, and we found, of course, a great many types of malarial fever. I noticed that some of the cases which presented malarial symptoms would, later, develop typhoid fever. We continued to make our blood examinations with similar results. We found a number of different malarial attacks, and that decided the question pretty well in my own mind that while perhaps the two might co-exist a short time, the typhoid soon got the better of the malaria. That was the conclusion we came to, and I think it was borne out. The cases cited by the leader have been recognized as "para-typhoid," the name given to continued fever which is prevalent throughout this section."

Dr. Maples: "I am glad, indeed, that the last speaker, Dr. Fondé, spoke of this fever under the name, "Para-Typhoid." It is very unfortunate that we did not hear the paper so that we might analyze the cases related. I think it is also unfortunate that such a name should continue to exist as a name for any sort of fever in Alabama, and I, for one, object to the Medical Association of the State of Alabama, in this late day, endorsing any such view as the name "Typho-Malarial Fever" implies. I wish Dr. Thayer, of Baltimore, were here now, for I am sure he would be astonished. You all have his work on "Malarial Fevers;" you will find that he is astonished that we Southern physicians should continue to call fever "Typho-Malarial" fever. He states that there is no such term, and there is no combination existing in the South as these fevers, which are causing great trouble in the classification of fevers in the South. In malarial fever we only have to give quinine two or three days, and it will knock out malarial germs every time. I do not think that there is any question about it at all; it will kill malarial germs."

Dr . Nabors: "I am glad we are getting a name for this particular fever. Pretty generally it is known as para-typhoid

fever, and it is talked about at every medical meeting, I think, I ever attended. Some physicians call it typhoid, but it is clear that this fever is different from typical typhoid fever. True typhoid fever runs a typical course. This continued fever has no concentration at all. It does not follow any regular course. I am glad we are getting a name for it. This fever does not follow the lines of development of typhoid fever; we find it breaking out everywhere, and still a great number of our physicians call these continued fevers typhoid, but clearly they are not of that kind, because they do not follow the typhoid line; they are irregular in their course. As to the treatment of this particular fever, in my experience, not much treatment is required. Up in my country, I give butter-milk to drink, and keep the patient quiet in bed, and, so far, they have all been getting well. I give very little medicine."

Dr. Thayer: "I would like to say that I regret very much not to have heard the paper upon the subject; I had hoped to get here in time.

"Typho-malarial" fever is a term which came into use shortly after the late war, being largely introduced by Dr. Woodward to describe certain fevers supposed to combine the symptoms of typhoid and of malarial fever, in various ways. At that time, neither the facts of typhoid nor the facts of malarial fever were known. Since that time we have learned both, and the methods of diagnosis which we think can be applied are positive in a large number of cases. The term "typho-malarial" fever was very largely in use fifteen or twenty years ago; very largely in use all over the country, in the North especially. It was probably more in use in the North where the people did not know as much about malarial fever as in certain parts of the South, where people knew very much more about it. Since we have acquired knowledge of the facts of typhoid fever and of the facts of malarial fever, I have never seen in fifteen years in Baltimore, in connection with a large hospital in a town where we have a great deal of malarial and typhoid fever, a case of fever where the two diseases co-existed. I have seen a case of typhoid fever develop malaria, and I have seen, in several instances, a relapse of malaria before the patient was over typhoid fever, and literature contains very considerable number of cases of this last kind. This is very common, but the actual co-existence is very uncommon. Now, I may say more than this, that in the last ten or fifteen years, a careful study of cases

which were supposed to represent a disease presenting the symptoms of the two maladies has not supported the idea that such a disease exists, and in looking over the statistics of hospitals where the proper blood analyses have been carried out, we find that the diagnosis of "typho-malarial" fever has disappeared entirely from the lists."

Dr. Betts, in closing the discussion, said: "My reason for reading this paper was to provoke discussion. I wanted to get an expression from this Association in regard to this particular form of fever. The disease sometimes starts with chills, and afterwards runs a slow course of three or four weeks; some physicians call it typho-malarial, others typhoid fever; being guided by the clinical symptoms. Many of the active practitioners who come in contact with the disease are not so equipped as to make blood examinations. The idea of the paper was to draw out expressions of opinion from the members of the Association as to the real nature of the fever, whether typhoid, pure and simple, or continued malarial fever. I am glad that the paper elicited considerable discussion.

THE "MECHANICAL" AND "OPERATIVE" LINES OF ORTHOPOEDIC TREATMENT.

By A. F. Toole, M. D., of Birmingham.

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When one reviews the treatments recommended for any single affection in the entire domain of Medicine, one finds a variation which may run from a mere difference in dosage to the employment of measures almost opposite in the principle of their action. Throughout one entire branch of work, however,—large enough to form a special field of surgery,—careful study will show that two distinct ideas form the basis of all the means brought forward for the relief of the conditions here met with.

I refer to Orthopoedic Surgery, embracing thereby all such affections as are now being conceded to fall within its scope;

and the two ideas at the base of all present Orthopoedic treatment may be expressed in general terms as the "Operative" and the "Mechanical." The origin and development of these ideas, though easy to trace, belong more to Medical History than to a brief sketch of their effects; but in the larger cities of the land, wherever are found two or more hospitals devoted to Orthopoedic work, we may easily note how the parting of the ways, many years ago, left one to pursue one principle of treatment to its rational limit, while the other with equal persistency strives to attain as good or better results along the other line. There are thus two "schools," we might almost say, whose followers are but rarely so bigoted as to deny the good that may be affected through the procedures of their rival brethren, but who are firm in believing and attempting to show that the more logical measures belong to them. If one side has the better argument in some cases, while in others it is at fault, we may judge for ourselves by rapidly going over those affections, from head to foot, where more than one manner of treatment has been employed.

Let us consider first torticollis. Here the difference of opinion hinges chiefly on the diagnosis of the variety of the torticollis, as due to the exciting cause. Excepting, of course, such cases as hysterical and ocular wry-neck and the wry-neck of cervical Pott's disease, where the deformity is merely symtomatic of other trouble and the treatment directed accordingly, we see but little argument over the correction of the chief remaining forms—the congenital, the chronic acquired, and the spasmodic. Where "looks" is the only consideration, one would hardly offer a brace as a permanent substitute for a mere twisted neck; a substitute which would be more unsightly, and would at the same time fail to remove the cause. In like manner, where there is clearly a fibrous and contracted sterno-mastoid, of long standing, no one except perhaps the patient would object to a myotomy; an operation both safe and curative. In the severe but fortunately rare spasmodic form, a resection of the spinal accessory nerve is the most promising method of relief. There is some disagreement in early cases of congenital torticollis and of those due to reflex irritation; some recommending long-continued massage, stretching and exercise, and others believing the indications to be for immediate tenotomy or myotomy.

When we come to tuberculous diseases of the shoulder-joint, we may as well first consider the general points in the different treatments of all tuberculous joint-disease. The open-surgery advocates believe that the logical thing to do is to expose and remove the focus of the disease; that thereby they may abort several years of invalidism, with a functional result almost if not quite as good as the one to be expected by following the slower course. The adherents of the mechanical or instrumental idea claim that they are dealing with a process where the prospect of a natural cure is excellent, and of fair functional result probable, when Nature is guided and assisted mechanically; but their strongest contention is that excision or resection does not by any means always remove the numerous foci, and that it *does* either excite more serious local trouble, or sacrifice the patient to a general and rapidly fatal tuberculosis. Of course, in certain joints and under certain complications, those who hold to either theory are bound to modify or surrender their opinions.

Return now to diseases of the shoulder-joint. Since this is more frequent, comparatively, in adults, and since joint-disease in adults is so often but one expression of a general tuberculous involvement, the prognosis for recovery with good function is not so bright as the anatomy of the parts would seem to promise. Hence, except in young and robust patients, apparently able to withstand a lengthy infection, the operative method *is* the most conservative, leaving also an arm where diminished joint-motion is rendered less serious on account of the free motion which the scalpula affords. In cases treated without operation, however, there usually results, after a cure, considerable fibrous anchylosis, with about the same freedom of motion as follows excision.

In diseases of the elbow-joint, next, we find that the anatomical factor is almost the deciding one; for we have a joint of fine mechanism, but of complicated arrangement, where the slightest permanent change must injure its usefulness very largely; for even the fibrous changes and synovial loss following a natural cure will limit motion to a slight flexion. By excision, a fairly useful flail joint will often be obtained, or else anchylosis at the chosen degree of flexion. The mortality is low enough to be encouraging, and recurrence of the disease should not follow a careful operation. The mechanical treatment brings us at once to a much-disputed point of division

among the advocates of the mechanical theory; this is the relative efficiency of simple traction, and of simple immobilization. Obviously, whatever degree of separation of the diseased surfaces we may secure by traction elsewhere, no amount of force could here separate ulna from humerus; hence absolute immobilzation, which *is* feasible, must get the credit for assisting Nature in her cure; and such immobilization does effect a cure, though often with anchylosis. In general, when fairly heavy use of the arm is to be expected, excision seems indicated, but when only slight work will be needed, we may be content with a flexed and rather rigid limb.

When the wrist-joint is the seat of tuberculous disease, we have indeed a poor prognosis; a policy of non-interference can not prevent a spread of the process through a most complex joint, with the destruction of bone after bone; while if the knife be employed at all, it must be freely used to do any permanent good. Mechanical treatment will, I think, in most cases obtain a slightly better result, where any result is bound to be poor.

Coming next in order to that most common of all tuberculous affections, Pott's disease, we see how Necessity, almost, has driven its treatment to follow along one line, the mechanical. Though the controversy is spirited as between the plaster jacket and the steel brace, or modification of both, these means of treatment merely represent the one idea of "support, protect, and let be." Attempts, generally disastrous, have often been made to hunt out and remove the diseased focus or sequestra; and more logical but questionable efforts are still made to forcibly correct the resulting kyphos; but the strongest arguments of the so-called conservative party have been in the cures of so deep-seated a bone-lesion, by merely giving the proper protection to a weakened spine. The mechanical line of treatment therefore has in this country almost a clear field, and one form of support is better than another in so far as it is more efficient mechanically for that particular region or condition.

To leave tuberculous diseases for a moment, let us, while we are considering the spine, see what is being done for lateral curvature. Many of you had the privilege last year of listening to a discussion of this subject, with a proposed and original operative treatment, as given before this Association by Dr. Hoke, of Atlanta. This most baffling of deformities had hitherto been treated mechanically, and we might say symtomati-

cally; for one cannot remove the deforming cause, when, as often, it is not known. Since Dr. Hoke's report was not claimed to be conclusive, but rather preliminary, it is no reflection on his operation to say that we must wait before comparing this new operative method with any of the former ways of mechanical treatment, expressing meanwhile a deep hope of success in this important subject.

Reaching the hip-joint, we may first regard briefly the subject of congenital dislocation, a subject probably holding a prominent place in your minds since the "Lorenz method" awakened such a widespread discussion regarding itself and the "open method." Here, as in contrast to the treatment of Pott's disease, we could strictly consider this dispute as being more of a dispute among those holding to the operative idea, and dismiss it from such a comparison as the present; for in reality there is now no attempt made to reduce the average dislocation by slow and mechanical means, or to apply braces to assist the unreduced femur; if something is to be done, the head of the femur must be introduced to a natural or artificial socket, quickly and forcibly—in other words, by an operation—and the means to that end is a question for the operating-room, not for outside treatment.

In taking up tuberculous disease of the hip-joint, now, we reach a field of such widespread and bitter disagreement that the distribution of ideas has been said to be almost geographical. The operative idea, of attempting to rid the body of this tuberculous process through an incision, has its stronghold in Germany; while the more conservative plan of protecting the joint and insuring against deformity while waiting for a cure by nature, is the approved procedure in England and America. These latter two countries are themselves representative of differing opinions as to the better method of mechanical treatment; English surgeons believing in the greater efficacy of complete immobilization, while the earlier American Orthopedic men strove to apply continuous traction, allowing possibly a small range of motion. We have never been able to see over here any reason for employing excision except as a last resort; and the numerous objections to this method, led by a most discouraging mortality, would seem to indicate some form of mechanical treatment as the logical means of procedure.

Leaving the hip, and taking up in turn tuberculous disease of the knee-joint, we meet a conditon where the indications

vary largely according to external considerations. The frequency of the disease in adults is relatively large, and a merely protective treatment does not relieve a man from being long incapacitated for hard work; hence most surgeons prefer to excise the diseased bone, or to amputate, with a view of giving a fairly useful stiff limb, or healthy stump, and a more speedy return to active life. That such a good functional result is not ultimately the result more often, may be justly blamed either to a faulty technique or to a tuberculous involvement of other parts. It is, however, unfortunately true that many cases where excision has at first been apparently successful, must later resort to a support for the useless limb. In children, however, time is not so important; while moreover a limb minus two epiphyses has a serious shortening as its certain prognosis. Mechanically, there may here be applied the same principles of immobilization with or without protection from weight-bearing, and of traction, or both. Efficient traction is certainly doubtful; immobilization should be almost perfect; and though many men assert, without attempting explanation, that weight-bearing is not harmful to a mobilized joint, the side of safety is also the side of protection from weight. The chief deformity, subluxation, can be guarded against, and the prognosis is fairly good.

When the ankle-joint is diseased, there are no hard and fast lines of division between the means to be employed; treatment may be said to be expectant, in that more radical measures can be safely reserved and successively employed upon the failure of conservative methods. In other words, it is admitted that protection to the joint results most frequently in a cure with a serviceable foot; should abscesses be too severe, or healing too slow, an excision or removal of bones may yet afford good walking power; or, as a last resort, a painful and deformed foot may be removed and its function supplied by an artificial member.

There remain but two or three conditions about which I shall say a word. In the case of bow-legs and knock-knees, there is certainly a marked difference between protective bracing until the child outgrows the curve, and femoral osteotomy; yet more often it is the demands of the parents rather than the judgment of the surgeon which decides between the two. In a large number of such cases, falling well within the limits of slight or ex-

aggerated deformity, either treatment is good treatment, yet the conditions of the case must make the choice.

The various effects of infantile paralysis have until recently been attended to by such forms of splints as tend to take the place of the paralyzed muscles; but their use is demanded as long as the patient lives, nor can the most ingenious ones render the function of the leg perfect. A most promising field has been opened up by tendon-transplanting, which is peculiar in that by operative means it makes Nature mechanically relieve the lameness. Tendon-transplanting should and will be more generally undertaken, and with increasing success.

Flat-foot, the importance and the diagnosis of which are both securing more careful consideration, has been treated in the main by supplying some form of false arch. Now and then there arises some operation such as the one attributed to Dawbarn, where a cuneiform section is removed from the tarsus. But failure of relief by a mechanical arch is nearly always due to lack of detail or patience, and it is to be questioned whether the victim of excision can ever walk with comfort upon a thick mass of plantar scar-tissue.

The natural property of contractility possessed by this same plantar scar-tissue, a property exercised in increasing degree long after the operation, is one which alone to many minds stamps as illogical any cutting operation for the correction of infantile club-foot. I am aware that an immediate good result by the use of the knife is easy to attain, and that such surgery is linked to the name of the late Dr. A. M. Phelps, an able authority in orthopedics; but there are many observers who happen to catch these cases as they drift from place to place, maybe years later, and who find a deformity made worse by the slowly contracting power of these large scars, whether they be of the open or the subcutaneous variety. A thorough trial of judicious manipulation and bracing is nearly always rewarded by a sound foot.

And now, having for the sake of time and patience, touched in a merely general way upon several of the more common means of treatment, I wish to define clearly the ideas which I have meant to convey:

That though, as in many other lines, there may be at our command widely differing agents for restoring diseased parts to health and usefulness, we have here a whole field where agreement upon etiology, pathology, and diagnosis, often

changes abruptly to disagreement upon the question of treatment. Without regarding the many cases where the conditions found would clearly give the preference to one method or another, there is yet to be seen a difference of belief that must indicate a marked personal bias, and consequently a very unsettled state of Orthopedic treatment; hence until experience shall be able to establish the right and the wrong more conclusively, we should most cautiously accept even the best known methods for relief, whether operative or mechanical.

DIFFERENTIATION BETWEEN GLAUCOMA AND CATARACT.

By Louis Edelman, M. D., of Mobile.
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In the last few years several cases of glaucoma have come under my observation, in which the patients had been treated for cataract, with bad results.

To the country practitioner, who by necessity is compelled at times to be a specialist, this short paper may be of some interest. Since the beginning of the present century, glaucoma has occupied the minds of the eminent scientists, Kömg, Fürst. Von Gräefe, and Fuchs. Mary volumes have been written upon the subject, and more are to come. Correct diagnosis is the foremost factor in the science of medicine. In some diseases we may be mistaken in the prognosis without causing serious harm to the patient, but an accurate knowledge is necessary in order to differentiate between glaucoma and cataract. To the inexperienced medical man, who has never had a chance to understand the use of an ophthalmoscope, it is hard to differentiate between glaucoma and cataract.

A cataract is an opacity of the crystalline lens, or an opacity of the inner or outer capsule. Sometimes, but very seldom, there exists an opacity of the liquor Morgagni, a liquid which exists between the capsule and the lens. Cataract is a very common

disease. It respects neither age, locality, or birth; you may find it in the infant just born, or in the man of three score and ten, though, as a rule, it does not appear until the age of sixty is reached.

The cause of cataract is very little known. Numerous theories have been advanced, but they remain theories only. Helmholtz claims that a cataract is due to an inflammation of the vitreous. Little particles begin to float in the vitreous, collecting themselves in a body, until a solid wall is built around the crystalline lens. For that reason the patient does not lose sight at once. Objects begin to look dull, and vision diminishes gradually, until the sight is entirely lost. While not able to see an object, yet the patient can still distinguish light from darkness.

Glaucoma constitutes about one per cent. of all eye diseases. A quick diagnosis of the case is, therefore, of the greatest importance, as the destruction of vision often takes place in a few days, and sometimes in a few hours. A great many have lost their vision on account of false diagnosis. Inflammatory glaucoma will often be mistaken for iritis, or irido-cyclitis, and such patients treated with atropine, the use of which is particularly injurious.

Glaucoma simplex will sometimes be taken for cataract, and the patient will be instructed to wait until the cataract matures. So, in either case the delay may make it too late for an iridectomy.

Before the ophthalmoscope came into existence, the only knowledge we had of glaucoma was of the inflammatory type. The simplex form was not known. Weber and Fürst were the first to obtain an ophthalmic picture of glaucoma. In 1856, Von Gräefe, for the first time, employed iridectomy in glaucoma, and to him alone is due all the resulting blessings. Thousands who would have gone to their graves blind, have gained vision through Von Gräefe's discovery.

DIAGNOSIS.

The first stage of inflammatory glaucoma is manifested by obscure vision. The patient declares he cannot see well. He complains of a cloud being before him. By placing a lighted candle before him, he will see rings around it, having the color of a rainbow. There is a feeling of tension, accompanied by a dull frontal headache, great pain in the inner eyeballs. Such attacks

last for a few hours, then the eye comes back to its normal condition. These attacks will come on at intervals of a week, and sometimes will not occur for a month.

The second stage is ushered in with congestion of the venous system. The heart begins to act feebly, the feelings become depressed, the pupils dilate, the patient complains of very severe pains in the head, ears, and teeth, which sometimes become almost intolerable. Loss of appetite and sleep, and sometimes vomiting, will set up. The field of vision becomes considerably narrowed. The cornea becomes insensitive to the touch. The anterior chamber becomes shallow, the iris discolored. The increased tension is now permanent, and vision is lost forever.

If you will keep in mind the following points, you will succeed in differentiating between glaucoma and cataract.

First. In cataract, vision is diminished gradually; sometimes it takes months or even years before the patient entirely loses sight. In glaucoma vision fails rapidly and may be lost in a day.

Second. In cataract the opacity usually begins in the center of the lens. In glaucoma the opacity is visible in several parts of the eye.

Third. In cataract the pupil is natural; it contracts and dilates under the influence of light, and it dilates under the use of atropine. In glaucoma the pupil is widely dilated, is insensitive to light, and acts slowly under the influence of mydriatics.

Fourth. A cataract forms without any headache, or any other constitutional disturbance. In glaucoma there is a sick headache, neuralgia about the eyes, producing a general derangement of the system.

Fifth. In cataract the sight is seldom destroyed. In glaucoma it is completely lost.

THE DOCTOR'S BUSINESS SIDE OF LIFE INSURANCE.

By E. H. Sholl, M. D., of Birmingham.

Grand Senior Life Counsellor of The Medical Association of the State of Alabama.

In January, 1904, I received a communication from the Manhattan Life Insurance Company of New York requesting information concerning a certain doctor who had applied for a position as Medical Examiner of that company. For many years such matters had been referred to me by various companies, often requiring time and care and painstaking investigation in order to secure a reliable and also correct statement of the facts. This request brought sharply to my mind two considerations pertinent to this case. The one that the doctor had been absent from the city for fifteen years, during which time I had no opportunity of coming into contact with him and showing all the details of his professional life. Without this knowledge I did not feel that it was just to myself or the company to certify as to the propriety of his appointment. The next, and to my mind, a very important one was that this request was not merely a matter of courtesy to the doctor, but one of vital and profound interest to the company—the very basis of their successful operation in the field of their work through the protection of those whose interests had been entrusted to their care by the judicious selection of competent and trustworthy men. This being the case and the companies being by far the largest beneficiaries of correct information, I reasoned, and I believe rightly, that the doctor who furnished it was entitled to a reasonable fee for his services, not less than the usual fee of five dollars given by reputable companies for any ordinary examination—more, if the investigation required time and attention to obtain the necessary facts. For many years these invaluable details have been furnished by the doctors gratuitously. With their many millions of dollars of accumulation in the old companies far be-

yond the requirements of their mortuary demands, it seems but just and right—

> "That rewards should cleave to deserts
> And power to him who power exerts,"

or that those who have been the bed-rock of those accumulations should share in the results. To the request made by me of this company for a reasonable fee in reply to their communication, the simple statement was made that this was the first time such a request had been made of them, but no fee accompanied their note. Since then some life insurance company in Illinois asked for like information. A similar request for a reasonable fee for the services was asked before they could obtain from me the intelligence they needed and desired. Silence prevailed and still prevails. I ask the doctors of Alabama to join with me in asserting only a just right—not to be longer the bearers of care and time that yield no fruits, but to require in all such cases a fee justified by the demands. Co-operation by the profession at large will solve in time this phase of our relation to life insurance in such a way as shall inure to the benefit of the profession free from all features of injustice to ourselves and to them. "The laborer is worthy of his hire," and should have it. Legal advice sought on any subject relating to similar interest would require and readily receive a just and proper compensation, and would scout the idea of it being a matter of courtesy to John Doe. On equally as broad a basis the justice of our claim lies. My own stand in this matter has been permanently acted on and without any thought of discourtesy to my fellow-physicians, who can, if it has not occurred to them in the past, readily see the justice of the line of action assumed by me from this time forth.

DISCUSSION.

Dr. Cameron: "I am exceedingly gratified to hear Dr. Sholl's discussion in the lines indicated by him. It has occurred to me often that I was doing myself a great injustice to give life insurance companies information that was not at all agreeable to doctors; and I thought at the time, "Now, here I am doing a charitable act to a great corporation which has billions of dollars, and at the same time, am doing my brother doctor, which

I cannot help but do, if I act conscientiously, an injury, by rendering an unfavorable report." So, Dr. Shaw's discussion along that line is certainly one that I coincide with, and it is a new idea that ought to be remembered. Something else that he did not touch upon, and that is, that one of the largest life insurance companies in America has in recent years reduced its fees for life insurance to the amount of three dollars; I refer to the New York Life Insurance Company. Now, why it did so, I do not know, but I know that was two dollars taken out of the pockets of the doctor who made an examination which was worth ten dollars. Very often a doctor, if he is at all dissatisfied with his urinalysis, must resort to a microscopic examination; and while he does not get pay for that work, yet if he is a conscientious doctor, and wants to do justice both to the applicant and to the company, he will resort to a microscopic examination when he is in doubt at all about the urinalysis. Our County Society of Sumter,—I do not know that any other County of the State has taken such a stand—five years ago, adopted a resolution that no man should be examined for any old-line life insurance company for a smaller fee than five dollars. We thought we had the life insurance companies corralled, and that they would be compelled to pay us that fee. It was not long before they would come up to me, and I would tell them that I could not examine for their companies for a fee of three dollars. But the agent is always looking out for his own interest, and not so much the life insurance company's. So he says, all right, you go ahead and make your examination, I will take two dollars out of my pocket and pay the required fee of five dollars. We soon saw that this was an injustice to the agent, because the company was very capable of paying its own debts. So at our next meeting, we adopted another resolution, to the effect that any doctor who is a member of our County Medical Society could not examine for any life insurance company for less than five dollars, and that five dollars had to be paid by the company, and no agent, himself, could make any payment on it. We think, therefore, in Sumter County, that we have got them shut off, so far as paying insufficient fees to the medical examiner, and the New York Life Insurance Company cannot get a competent doctor in Sumter county to make their examinations."

Dr. Edelman: "I want to speak about two minutes. The great trouble with our State Association, and also the doctors, is

the lack of business ability and confidence. We are always looking up for something better, we are always looking for something great, and we forget the great men we have had in this State of Alabama; men like Dr. Wise and Sims, Searcy, and Dr. Bryce, men of great ability. I had a patient in my charge when I was a general practitioner, who said she wanted to see Dr. Mitchell, of Philadelphia. She went to Dr. Mitchell who charged her three hundred dollars for an examination and charged two hundred dollars for a student to go with her; I charged her five dollars for the same examination and he charged her five hundred. I took her to Dr. Keen, and I charged her five dollars, and Dr. Keen charged fifty. Why? Because he was Dr. Keen living in Philadelphia. We ought to have confidence in our own profession here in the State of Alabama. There are men here in the city of Mobile, and in the State of Alabama, just as great as men in New York or Philadelphia, or anywhere else. I watched this thing for twelve years, and I have been poor, and I believe I will die poor. We never see the great men surrounding us right here in this section of the country. Can any one find a greater man than Dr. Searcy? I have nothing against the gentlemen who come here, but it shows the feeling that we are always looking above the ones who surround us, and it also shows the lack of confidence we have in them."

Dr. Morris: "Such discussions are entirely out of order."

Dr. LeGrande: "I am aware of the fact that this is the first time in about eighteen years that I have ever heard the question of fees discussed in the Association, but it has been presented to the Jefferson County Medical Society. It is open for discussion, and I shall take advantage of the opportunity to discuss it, in order or out of order. I think that Dr. Sholl, who has been confined to milk, has come down to Mobile and been given something stronger, and that he has branched off into a question that I cannot quite agree with him. It does not seem to me that it is practicable. I recognize the fact that the companies have their millions; they have stipulated prices which they pay physicians all over the country. If the competent doctors get on this high pinnacle that Dr. Sholl is endeavoring to put them on, the doctors who are outside of the Association, and men, perhaps, less competent, will make the examinations. Now, I am not making any plea for the companies, nor am I making a plea for making examinations for less than five dollars.

I have had, in my professional time, pretty nearly every life insurance company on my list, of the old line in New York and Philadelphia. The New York Life Insurance Company wrote me a letter several years ago notifying me that they were going to pay me only three dollars; and, just as I had a right to do, I told them that I could not serve them, and I have never served them since. I make no examinations———"

Dr. Morris: "I rise to a point of order. This discussion of fees is out of order."

Chair: "In the opinion of the President, there is nothing in our constitution to prohibit it, but the President is open to conviction."

Dr. Morris: "We have a rule in our Constitution and in our "Book of Rules" that no matter, either before the County Societies or before this body, pertaining to a fee of charges, shall be discussed in any manner whatsoever."

Chair: "The gentleman must cite me to the rule."

Dr. Sanders: "If the question of order is now under discussion, I would like———"

Chair: "There is no question of order under discussion. The President is only doubtful about it, and if he can be convinced of it, he will stop all of this in one moment."

Dr. Sanders: "That is just exactly what I hope to be able to do. The gentleman on my right is entirely correct in the general proposition which he states. A distinction, however, rests in that we are discussing, not fees, but rights. The discussion in regard to fees I would regard as out of order; I would also regard the discussion now in progress as out of order, but the original matter is one thing———"

Chair: "So far as the discussion is concerned, if you will cite me to a rule, I will stop this discussion in a moment. In the absence of any rule, the discussion is in order."

Dr.LeGrande: "Leaving out the question of fees, I want to touch on one point and I will quit. That is with reference to recommending the physicians who apply to us to be recommended. That is a courtesy to the physicians of the State, and to our neighbor, and I have had a great many companies asking me about so and so, and they send a stamped envelope, and you have only got to take a few minutes to write them. It is a courtesy to the physician in question who wants the recommendation. Suppose I had a young man who, I knew, was perfectly competent to make the examinations; suppose I should have

reached the same conclusion that Dr. Sholl has reached; it would have affected the young man, and I should have been glad to extend him the courtesy of recommending him. I do not think that we will ever be able to receive compensation for such courtesies to our physicians who want to make the examinations. We are doing the physicians a great favor by our recommendations, he gets the appointment and he makes the examination, and he gets his fees for it. If we refuse to recommend him, he is knocked out, and somebody else gets the appointment."

Chair: "I desire to read, for the benefit of the Association, one paragraph of an ordinance passed by this Association: 'Be it ordained by The Medical Association of the State of Alabama —in speaking of physicians—he should not make examinations for life insurance or any charitable, benefit or protective association, except by separate charge for each separate examination at the recognized and established rate.' So that the Association has the right under that ordinance to adopt any rate it sees fit."

Dr. Moody: "Are we to understand by the ruling that this Association is the source from which an established fee should be recognized?"

Chair: "The Association certainly has that power."

Dr. Moody: "It seems to me that that would be a most disastrous thing for us to do, and it certainly must not have been the intention of the Association, for that would convert us into a trust."

Dr. LeGrande: "I understand from the reading of that that it is in order for us to discuss the question."

Dr. Sanders: "The word 'established' rates was read, I believe. Those rates must be established by the profession, and not by the organized body."

Chair: "It does not state."

Dr. Sanders: "It does in other sections. It is out of order in any organized medical society in this State to fix rates. It has always been so declared, and any man who would get up on the floor of this Association, or on the floor of any County Society, to move to establish rates would be out of order, but that society can adjourn and the same doctors who were present, in an organized capacity, can meet, as individual physicians, and establish rates. Rates must be established by the profession and not by an organized body. That has always been laid down as the rule and order of our Association. When we fix rates,

we must act as individuals, and not as members of county societies or as members of the State Association. That was so ordained in order to protect us, as an organization, from the charge of being a trust. Whenever rates are fixed, then all of the doctors in a locality are entitled to participate in the fixing of fees. They must participate as individuals, just as lawyers participate in a meeting to fix their rates, but not in its organized capacity."

Dr. Marechal: "I do not expect to make any speech on this subject, but I simply arise to express my agreement and harmony with Dr. Sanders. The magnificent mind that conceived the scheme of medical organization in this State, feared that the question of fees would give rise to lack of harmony and dissension among the members of organized medicine in the State, and if the Chair will refer to the last part of the book of the rules, he will find that Jerome Cochran said that the County Medical Societies and the State Medical Association of Alabama had nothing to do with the fixing of fees governing the profession in Alabama, but that rested with the profession universally, and not necessarily with the organized profession."

Dr. Morris: "I think I find the rule which I referred to, and if I am permitted I will read it: 'Whereas, in some localities there are more than one medical society or members of the medical profession not members of any society who are equally interested in the object for which fee-bills are made, therefore, Be it resolved by the Medical Association of the State of Alabama, that for medical societies of this State to undertake, in any way, the regulating of charges is unwise and impolitic, and likely to result in some disturbance which might exist between the members of the societies outside of this society." * *

Chair: "The President, while he thinks that eliminates this discussion, yet the paragraph that he read follows that, and certainly was adopted subsequently to that———"

Dr. Morris: "It was adopted before."

Chair: "It is before, and the discussion is out of order."

PELVIC CELLULITIS.

By Isaac LaFayette Watkins, M. D., of Montgomery.

Senior Counsellor of The Medical Association of the State of Alabama.

Before the days of antiseptic surgery, when the surgeon rarely opened the abdominal cavity, it was the custom to regard all puerperal lesions in the pelvis as pelvic cellulitis.

Somewhere in the eighties, Novat and Valleit, and their students, contended that pelvic cellulitis did not exist as they had been taught, but that these conditions were primarily salpingitis, and that any cellulitis which might occur was the result of an extension of the infection, either by contact, or perforation of the tubes or ovaries. Their writings did not attract much attention. About the same date, Aaran, another French surgeon, appreciating the importance of this theory, succeeded in establishing these teachings almost to the satisfaction of every surgeon, the world over. Since that time theories and suggestions, in good measure, pressed down and running over, have existed in medical literature, as to the best means of treating puerperal infection, directed mainly to the uterus and Fallopian tubes.

Not wishing to take up your valuable time in reviewing the various discussions on this subject, I wish to make the broad statement that infection may attack the cellular tissue of the pelvis primarily, and may, or may not, involve the Fallopian tubes and ovaries. I shall report a few cases illustrating this fact.

That cellular tissue exists in the pelvis, outside the peritoneum, though in small quantities, cannot be denied. There is but a small amount in front of the uterus, beneath the vesico-uterine fold of the peritoneum; but behind the uterus, under the utero-rectal fold, is a greater quantity; and this is intimately connected with the rectum, cervix and vagina, which spreads out beneath the folds of the broad ligaments. This tissue is richly supplied with lymphatics and veins, and is subject to changes as to quantity and resistance, under normal circumstances. I see no good

reason why infection should not occur in either of those localities, as well as other portions of the body, and, independent of the peritoneum, Fallopian tubes, or ovaries.

The exciting causes of pelvic cellulitis are parturition at full term, miscarriages, or the use of dirty instruments. As I have stated above, the peritoneal space is richly supplied with lymphatics and veins, and the quantity is very much increased during the stage of pregnancy. These changes are particularly suitable to the dissemination of infectious material, which may, at an unguarded moment, be deposited in the vagina by the obstetrician or nurse. The infection makes its entrance into the cellular tissue through some abrasion of the lower segment of the uterus, or it may be, the preperitoneal space has been entered, and the infection deposited directly on this tissue.

A bacteriological study of these cases shows, either a streptococcus, a bacillus coli communis, or gonococcus, infection. The streptococcus infection is less likely to go on to pus formation, but produces a phlegmonous inflammation, which is nearly always fatal. The coli communis, or the gonococcus, bacteria, are more apt to extend to Fallopion tubes and ovaries. The mixed infection is not infrequently found, or the pus may be found sterile. Observations are wanting, demonstrating the source of infection in a certain class of cases that occasionally occur. I refer to virgins who are under the impression that they have taken cold, which is followed by cellulitis. These cases rarely go on to suppuration.

In puerperal cases the infection may result in an abscess somewhere in the cellular tissue; it may be some distance from the point of infection, or it may be arrested before this stage is reached, as in other phlegmonous inflammations. As a rule, the deposit lies low in the pelvis, and cannot be felt through the abdominal wall. It may be connected with the uterus, or it may not. If at the lower part of the broad ligament, it will extend out on the pelvis into a flat, fan-shaped mass, and extend up the psoas muscle to the postnephritic region where an abscess is frequently found. If it occurs in the vesico-uterine space, the inflammation may extend up the abdominal walls to the level of the umbilicus. In this case it can be distinctly felt. In case of the formation of an abscess, the pus may burrow, and escape at any of the following points: the vagina, rectum, bladder, either the back or abdomen, or through one of the pelvic foramina. A phlegmonous cellulitis, which precedes the suppurative stage,

may become general, and involve a large part of the preperitoneal cellular tissue. This condition, as a rule, is serious and frequently proves fatal.

It may be, during some stage of the inflammation, all the tissues in the pelvis may be affected. The peritoneum is congested and thickened, and the Fallopion tubes swollen and œdematous. It is this condition which has frequently misled surgeons, and cause them to regard all these cases as a simple salpingitis, when a few days observation will clear up this error, as this edema passes away in a short time.

Recently, Dr. R. P. McReynolds reported two cases before the College of Physicians of Philadelphia, where vaginal examination showed the uterus to be fixed and a large indefinable tender mass on the left side, which he thought was possibly a tubo-ovarian abscess. After a few days' delay, he opened the abdomen through the median line with the view of removing the pus tubes and ovaries. These organs were found in a perfectly normal condition, and the abdomen closed. A few days later, by extra-peritoneal incision, above Pouparts ligament, he opened the abscess and drained, the woman making a good recovery. The second case, on vaginal examination, showed the uterus to be enlarged, but movable, and to the left a mass which seemed to extend up the peritoneal cavity nearly to the umbilicus. The abdomen was opened through the median line and the uterus and adnexiæ were found to be in normal condition. Along the psoas muscle was some swelling, and projecting into the peritoneal cavity from the region of the left kidney was a distinct mass. The cavity was closed, and the mass, which proved to be an abscess, was entered through the lumbor region. The woman made a satisfactory recovery.

The diagnosis of pelvic cellulitis is usually not very difficult. The patient has recently been confined at full term, or it may have been a premature delivery. She may have been the subject of a slight operation, performed at her home without proper precautions for the relief of some minor trouble, such as suppression of menses, or dysmenorrhœa. If a puerperal case, she will think that she has left her bed too soon, and, as a result, has taken cold. After a short period of malaise, she will have a distinct chill, followed by high fever. Her general appearance may not be bad and her condition may not attract serious attention. The pulse will be found rapid, and the temperature much higher than the appearance of the patient would indicate. The

pain may be great or slight and usually located in the back and legs. There is no distention or tenderness of the abdomen. Vomiting, constipation, and a pinched expression, common in peritonitis, are absent. The chill is frequently repeated two or three times daily, and followed by high temperature, reaching 103 or 104, with much increased pulse rate. Vaginal examination reveals a tumefaction, more frequently in Douglas' cul-de-sac, or it may be in front, or on either side of, the uterus. This exudate lies low in the pelvis, never extending to fundus of the uterus; is of firm consistency, and is not very painful. It may hug and fix the uterus, or not, depending on its location. If it extends toward the pelvis it will be in a distinct fan-shape. If the uterus has been well cleared of membranes there will be no discharge from the vagina. If anything remains, there will be an offensive discharge, but this may occur with these conditions under other circumstances. The abdomen is usually flat, and nothing will be discovered on pressure from above. When these symptoms continue for a few days, with the absence of some of the commoner symptoms of peritonitis, you may be assured that you will have to deal with a case of infection of the pre-peritoneal cellular tissue.

Case I. The following case of puerperal pelvic cellulitis was seen in consultation about one week after a three months' miscarriage with twins. The attendant reported difficulty in emptying the uterus, which was accompanied with such profuse hemorrhage that he packed the uterus with gauze and let it remain for one day. On its removal the uterus was curetted and irrigated, and the woman left in a fairly good condition.

I saw her on the 20th of October, and she was having hard chills every few hours which were followed by high temperature. She complained of little, or no pain, and there was no discharge from the vagina. On examination, a small mass was found in Douglas' cul-de-sac, no tenderness over the abdomen. Intra-uterine douches and saline cathartics were ordered. These were followed by free catharsis, but with no improvement in the symptoms. The rigors kept up, save when she was under the influence of morphine. On the 24th of October the mass had enlarged and extended in the direction of the left side and spread out over the pelvis. This mass, bulging into the vagina, was opened, and a small amount of sero-sanguineous fluid escaped. The cavity was large and the finger met with but little resistance as far as it could reach. This was packed loosely with

plain gauze. On the evening visit of the same date her temperature was 103 F and her pulse was 140. The following day the gauze was removed and the wound irrigated. The discharges were greater and somewhat offensive. From this date the cavity was irrigated once daily with a strong lysol solution, and the vagina douched frequently. Later in the afternoon of the day of operation she had her first chill; following which her temperature reached 103. These continued to the end, which came on November 3d.

The pelvic organs could be distinctly palpated the last few days, and seemed to be in perfectly normal condition.

Case II. Miss F., aged seventeen, with unimportant family history. Had whooping-cough at ten, and measles at sixteen, from which she recovered without complications. She menstruated first at fifteen; and then it was induced by treatment of family physician; afterwards was irregular. She had menstruated but three times in eight months. Each time it was brought on "by opening up the mouth of the womb with instruments," as her father expressed it. She was anæmic, weighed 110 pounds; slept well; good appetite and regular bowels, but had a profuse leucorrhea. Cervix to the left and forward, size of the uterus normal, large boggy mass projecting from Douglas' cul-de-sac. Left ovary could not be felt, the right could be made out distinctly lying on top of the mass, and had probably become infected. Diagnosis: Broad ligament abscess following traumatic cellulitis. This was opened and drained through a rubber tube which was left in for two weeks. The girl left the infirmary in three weeks, much improved in general health. The abscess cavity was still open. At this time the pelvic organs could be easily palpated, and with the exception of the infected right ovary, seemed to be in normal condition. She has menstruated twice since, the last time without pain.

My object in presenting this paper, and these two imperfectly reported cases, is to show that there are cases of puerperal infection, which are not infrequently met with, that are not benefited by the drainage treatment of Pryor, nor by the more mutilating operations of some other surgeons.

SOME DISORDERS OF THE DIGESTIVE TRACT.

By George Heustis Fonde, M. D., of Mobile.
Member of The Medical Association of the State of Alabama.

The object of this paper is to bring before you for discussion the diagnosis and treatment of some of the common, every-day disorders of the digestive system, together with some of the far-reaching effects of these disorders, often vaguely comprehended under the terms dyspepsia, indigestion, biliousness, constipation, jaundice, *et cet.*

No claim for originality is made, but the paper does represent an honest effort to present a practical review and somewhat close study of the disorders mentioned, the clear analysis and rational and successful treatment of which are often attended by many difficulties.

Considering the digestive system as a whole, normally its processes are interdependent, and, to a great extent, automatic; therefore, a disorder in one part of the digestive process or digestive tract would disorder every other part of the system. This is shown more conclusively in the light of the newer gastric physiology, a brief reference to which is indispensible before we can profitably consider the nature and treatment of special disorders of the digestive system.

In his masterly research, Pawlow has shown conclusively that the gastric hydrochloric acid is a most essential stimulant to the formation of active ferments in the pancreatic juice—no hydrochloric acid, no, or little, active ferments in the pancreatic juice.

He has shown the presence of a new enzyme—chymaze—in the gastic secretion, which does not digest food, but which accelerates the action of the ferments of the pancreaic secretion.

He has further shown that the digestive tract is not universally and uniformly irritable or stimulatable by every mechanical, chemical, thermic, or dietetic agent, but that there is a specific reaction with regard to the peculiarity of every individual digestive demand or duty.

Very important, and of practical significance, is the fact that this investigator has clearly established the existence of two kinds of gastric secretion, the chemical and the psychic. He has elicited the astounding fact that for every kind of food a definite gastric secretion of specific composition is formed; that the stomach provides a certain chemical agent to meet each case.

Under the influence of psychic stimulation a gastric juice is furnished which is much more effective than that which is secreted under purely chemical stimulation of the food; that is, when food is taken without any appetite.

Furthermore, under the influence of psychic secretion, foods which otherwise would not stimulate the gastric mucosa to secretion become converted by the already present psychic secretion into something else, which constitutes a further stimulant to the secretion of gastric juice.

Further revelations from Pawlow's work discloses very important relations between the various classes of food, justifying the conclusion that they may mutually advance, or interfere with, the digestion of their various constituents in the gastric chyme. For instance, starch paste does not of itself promote gastric secretion, but when mixed with meat it was found to accelerate the action of the gastric juice, increasing its digestive power.

On the other hand, the addition of fat to a meat diet diminished the quantity of gastric secretion, as well as its digestive power.

Furthermore, it was demonstrated that the stomach is capable of distinguishing between lactic, butyric, and hydrochloric acids, and responded to each of these acids with a varying quantitative secretion.

As lactic and butyric acids are products of gastric fermentation, their stimulating influence on gastric secretion is of therapeutic importance.

Pawlow's experiments give the clue to the treatment of gastric *secretory* disorders, not by drugs merely, but by dietetic measures. Again, it is shown that the chemical processes which various food articles undergo in the stomach are of far-reaching importance for the changes which are to occur in these foods after they reach the intestines.

The most efficient means of counteracting dystripsia due to pancreatic insufficiency is to bring about a healthy appetite.

Appetite is the stimulus to normal gastric secretion, and this in turn the normal stimulant to healthy pancreatic secretion.

J. C. Hemeter, of Baltimore, from whom I have largely quoted, says of Pawlow's work: "In its preciseness and accuracy it exceeds any new discovery of modern physiology. If you want to feel proud of being a physician, read Pawlow's work."

A reference to the newer intestinal physiology shows us a complicated, but admirable, interdependence of the pancreatic and duodenal secretions:

1st: The contact of the hydrochloric acid of the gastric chyme with the epithelial cells of the duodenum causes in them the production of a body called "secretin," which is absorbed from the cells by the blood current, is carried to the pancreas, and where in proportion to the amount of secretion present, it acts as a specific stimulus to the secretion of pancreatic juice.

2d: This pancreatic juice, however, though active upon boiled starch, is not active upon proteid until "enterokinase" is added—another product of the duodenal and jejunal mucosa.

Now, as to the disorders of the digestive tract, let us devote our attention to those of the stomach as of first importance, and usually primary to other disorders of the digestive system. We may divide them into acute and chronic affections.

The acute, embracing acute gastric catarrh, toxic gastritis, phlegmonous gastritis, gastric ulcer, etc., will not receive further consideration in this paper.

The chronic affections, we may further divide into, 1st, Organic Lesions; and, 2d, Functional Disturbances.

The former group (organic lesions) does not come within the scope of this paper; it comprises malignant diseases of the stomach, cicatricial strictures of the cardia or pylorus, erosions of the stomach, absence of secretory work of the stomach (Achylia gastrica.)

The latter group (functional disturbances) constitutes over three-fourths of all dyspepsias, and it is to this class to which your attention is particularly invited. Here stand foremost, chronic gastric catarrh, atony of the stomach, dilatation of the stomach, gastroptosis, etc., which for practical purposes I shall ask you to consider in a group to themselves, in contrast with another group traceable to nervous origin, and which group, practically considered, is well covered by the generic term nervous dyspepsia, consisting of the various gastric neuroses, sen-

sory, motor, and secreory, embracing the many and varied conditions designated under the following headings:

Neuroses of secretion; hyperchlorhydria; gastrosuccorrhœa chronica et periodica; hypochlorhydric, etc.

Neroses of motility: Belching and eructations, pyrosis, rumination, nervous vomiting, peristaltic unrest or spasm of the stomach, cardio-spasm, pylorospasm; and the conditions of diminished peristalsis of the stomach: Pyloric relaxation or incompetency, insufficiency of the cardia, atonic dyspepsia, etc.

Neuroses of sensation: 1st. Disturbances of the hunger-sense: Bulimia, polyphagia, akoria, anorexia and pica. 2d, Nervous gastralgia, hyperesthesia of the stomach, etc.

Chronic Gastric Catarrh: A chronic inflammation of the gastric mucous membrane of varying degrees of intensity, and causing various disturbances in the act of digestion. I may add, also, that the factors in these disorders of digestion are motor insufficiency, secretory errors, and often dilatation, due to muscular weakness and relaxation, as well as the manifold results of gastro-intestinal auto-intoxication, due to the local irritating effect of, and the absorption of the irritants formed by, the abnormal chemical changes in the food, and the consequent congestion of the splanchnic circulation.

As a rule in chronic gastric catarrh the pyloric portion of the stomach is most involved. The inflammatory process, however, may sometimes extend over the entire mucous membrane of the stomach and onward into the duodeum, thence giving rise to a long train of other complications, first among which are obstructive and infectious disorders of the liver, with the resultant disturbances of its great functions as a "poison filter" and its power of absorbing and transforming into harmless excretory substances the excess of toxines brought to it by the portal vein.

The superficial layer of the epithelium of the gastric mucosa is frequently defective.

The mouths of the glands are very often filled with a pale mucous mass, which projects against the lumen without any enclosing membrane.

The inflammatory process after existing for a long period may at the end lead to a total destruction of the glandular layer of the entire organ, thereby causing a condition of atrophy of the stomach with the resultant, achylia gastrica.

It will be at once perceived that there are varying degrees and extent of the foregoing morbid changes, from, on the one hand,

a case of simple chronic catarrh, with but slight disorder or impairment of the various factors in digestion, and but slight symptoms without the consequent complications and conditions mentioned, while on the other hand cases may present one or more of the vast train of complications and results indicated, even to degenerative changes in the nervous system, the kidneys or the liver, the result of the chronic toxæmia. Cholelithiasis may be traceable to obstructive and infective processes the result of this disorder.

Etiology: It is evident that the factors which produce acute gastric catarrh will, if long continued, produce a chronic condition. The causes of chronic gastritis act either as mechanical, chemical, thermic, or biologic irritants, and fall naturally into the following classes: 1. Errors of diet (referring more particularly to important articles of food), its variety, and preparation; excessive alimentation; the habit of eating at irregular intervals or with undue haste, and thus not allowing time for perfect mastication of the food. The too frequent use of ice-water, tea and coffee during meals plays an important role in the causation of dyspepsia. 2. The immoderate use of alcohol. Those persons who habitually indulge in alcoholic beverages to excess are prone to an irregular mode of life, which leads to digestive disturbances. Such patients are apt to suffer from the more active forms of the complaint, and, at intervals of time, from genuine acute gastritis. In the same category should be mentioned certain toxic irritants, as the over-use of tobacco and the prolonged use of tonics and purgatives. 3. Functional derangements of the stomach sometimes merge into the disease under consideration. Under these circumstances fermentative and putrefactive changes set in. Stockton holds that the majority of cases of chronic dyspepsia are of nervous origin. 4. Local mechanical influences (portal congestion) may offer resistance or obstruction to the outflow of venous blood from the stomach to the right heart. In this way chronic gastric catarrh is a secondary process in chronic affections of the liver, heart, and lungs. 5. Such constitutional conditions as gout, chronic rheumatism, chronic tuberculosis, Bright's disease, diabetes, anemia, chlorosis, chronic malaria, syphilis, and chronic forms of skin disease. The explanation of the peculiar liability of these conditions to catarrh of the stomach lies in the obstruction offered to the passage of blood through the hepatic and cardiopulmonary circulation. This is true in an especial degree in

chlorosis, anemia, chronic tuberculosis and malaria; in gout, chronic Bright's disease, and syphilis it is probably due largely to the action of chemico-vital irritants in the circulating medium.

Symptoms and clinical history: The disease as a rule develops very slowly. The initial symptoms are not well marked. After the condition has lasted for a longer period of time the complaints are more pronounced, and a train of many varied symptoms presents. The patient frequently complains of abnormal taste in the mouth. Appetite is ordinarily diminished, or if present, a feeling of satiety appears after a few morsels of food. After meals there is a sensation of fullness in the gastric region and the patient feels oppressed. This feeling is sometimes so severe as to give rise to symptoms of quite an alarming nature. For instance, the patients complain of palpitation of the heart and shortness of breath. In some instances again there is a dizzy feeling, which may be so severe that the patient cannot occupy a standing position, but has to sit down or lie down. Belching constitutes one of the most frequent symptoms of chronic gastric catarrh. Often the gas brought up belching is odorless, although it may have an unpleasant odor. As a rule, intese pains are absent. There is a mere sensation of discomfort and sensitiveness in the gastric region which may increase after meals, more especially after the ingestion of coarse food.

The patient may experience a burning sensation at the pit of the stomach and a regurgitation of sour liquid, or liquid mixed with food, may occur.

Vomiting is not a frequent occurrence in gastric catarrh. It is met with most frequently after the morning meal, or, it may occur in the morning on arising, when the quantity ejected is quite small, and consists of a watery fluid containing principally mucus. A feeling of nausea is more frequently observed.

The bowels are frequently abnormal. Either they are very constipated, which is quite the rule, or there may exist diarrhœa, or, again, periods of diarrhœa may alternate with periods of constipation. The urine is scanty, and frequently contains deposits of phosphates and urates.

General symptoms: These patients feel languid and manifest less energy in the performance of their work. Their mental activity is frequently weakened. They often complain of headache, especially in the morning, and a heavy feeling in the

limbs. A desire to yawn is often met with, and some patients assert that they cannot breathe as deeply as they desire. In some instances the flow of saliva is greatly increased. Sometimes patients experience a constant, irritated, feeling in the throat, which they seek to relieve by a kind of hacking cough.

Objective signs: The general appearance of the patient is, as a rule, quite good. He looks quite well nourished and usually possesses a good modicum of fat. Some patients, however, show black rings under their eyes, notwithstanding their being well nourished. Under these circumstances, because of the splanchnic congestion and nervous depression, they have cold hands and feet, and are easily chilled. There are, however, exceptions to this rule, and patients are sometimes observed who have lost considerably in weight, and appear quite emaciated. The tongue frequently appears broad and flabby, and almost constantly the edges and tip are somewhat reddened, whilst the papillæ are enlarged. Occasionally it is small, with enlarged and red papillæ, or it may look healthy. The margin of the tongue often show the indentations of the teeth.

Physical Signs: Sometimes there may be observed an undue distention of the stomach, the prominece being more marked toward the left. On making firm pressure over the gastric region tenderness is often elicited. This is not present in the early stages, nor constantly, later, since the degree of inflammatory action is subject to great variation. Diffuse tenderness in the absence of a new growth is of great diagnostic value. It is to be recollected, however, that resistance may be felt when the stomach is thickened in chronic interstitial gastritis. Dilatation of the organ may be indicated by splashing-sounds, and these may be present in the absence of gastrectas is at a time when the stomach should contain no food. On percussion we may note alterations in the size of the organ. Among the general or indirect symptoms manifested, the nervous phenomena are of first importance. So prominent are they in the clinical picture as to often mislead the incautious physician. The nervous derangements have been attributed solely to morbid sympathetic disturbances; it is quite probable, however, that we should ascribe a share of the morbid influence to the absorption of toxic materials from the stomach and intestines. Headache is frequently complained of; it is generally frontal; though also occipital, and tends to appear bjefore meals. Patients complain of wakefulness and disturbed dreams, though drowsy after meal

time. There is a sympathetic disturbance of the cardiac rythm, and sometimes dyspnœa, owing to the same cause.

Stomach Contents: To obtain the contents of the stomach we should use an ordinary stomach siphon or soft, flexible, rubber tube. The tube is moistened with water and the end carried back to the pharynx; the patient is now asked to swallow, and the tube is gently pushed down the œsophagus until it reaches the stomach. An ordinary hard rubber aural syringe, or Politzer, is now attached and the stomach contents withdrawn; or it may be simply siphoned off. The Leube-Riegel test meal corresponds very nearly to the ordinary dinner; it consists of a large plate of soup, a large piece of beefsteak, and some potatoes, and a roll. The examination is to be made about four hours after the meal. I shall not enter into the various tedious laboratory tests which require delicate reagents and equipment for the more accurate analysis of the gastric contents, but will briefly state simple observations which may be taken as confirmatory of a previous diagnosis, or suspicion from some of the symptoms above enumerated. I do not underestimate the value of the more exhaustive methods or wish to discourage them; quite to the contrary. But, these may not always be either necessary or feasible for the general practitioner. Some information, however, should be had of the stomach contents in all cases which prove intractable after the ordinary measures. Whether stagnation or retention exists; this may be determined by close observation and quizzing as to vomitus, or the washings or withdrawn stomach contents.

If the contents are red or brown or chocolate, test for blood.

1st. Note the physical properties as to quantity, odor, color, relative quantity of the liquid and solid portions.

2d. Note presence or absence of mucus.

3d. Test with Congo-red paper. If negative, use litmus paper to test reaction.

4th. Test with dymethylamidoazobenzol paper. a. If negative, the free acid is organic. b. If positive, free hydrochloric acid is present.

Miscropic examination sometimes reveals the presence of sarcinæ ventriculi, yeast fungi, and numerous bacterial organisms. The relations of the low forms of life to the pathologic processes going on in the stomach are not well understood, except

in the case of the yeast fungus, which is concerned with the process of fermentation. The sarcinæ ventriculi may, however, exercise a causative influence, since certain cases yield rapidly to the antiseptic method of treatment.

In chronic gastric catarrh the hydrochloric is found to be diminished; and, rarely, lactic, butyric, and acetic, acids are present. Mucus may be present in great quantities in the gastric contents in some cases, while it may be absent in others. When present the gastritis is designated as a chronic mucous gastritis, when absent, simple gastritis. The pieces of meat and bread will not be found as finely divided as normally. The absorbent and motile powers of the stomach are both more or less diminished, therefore, the quantity of the gastric contents obtained after the test meal may be either normal or larger.

Tests for the motor function: More important than the secretory is the motor function of the stomach. I will mention two tests. 1st: The method of Leube: consists in washing out the stomach from six to seven hours after the above meal. Normally the stomach should be empty within these periods of time, so that if a residue remains it denotes a lack of the motor force.

2d. Salol Test of Ewald and Sievers: Salol being composed of phenol and salicylic acid, it is not acted upon in an acid medium; therefore, when introduced into the stomach it remains a stable compound and is only broken up in the intestine by the action of the pancreatic juice. The salicylic acid is absorbed into the blood and eliminated through the urine, in which it can be detected by adding a few drops of neutral ferric chloride, a violet color appearing. The patient is given fifteen grains of salol in two capsules; the bladder is emptied and the patient is told to urinate every half hour for two hours. Normally, it requires from three-fourths of an hour to an hour for the salicylic acid to appear in the urine, but when the motor function of the stomach is impaired, it may require two or more hours. In order to detect the earliest traces of the eliminated salicylic acid, Ewald and Einhorn have suggested moistening a piece of filter-paper with the urine, and then allowing a drop of neutral ferric chloride to come in contact with it, the edges of the drop showing a violet color in the presence of the slightest traces. This test is not always reliable.

Course: The duration of chronic gastritis is a very long one. Very frequently there are exacerbations of the symptoms,

even when the condition seemed almost entirely cured. Indiscretions in diet are especially liable to cause a recurrence. Often, however, a rational treatment effects the disappearance of all these symptoms, and the patient will be well for years.

Diagnosis: 1st. The long and steady duration of the disease.

2d. The symptoms just described.

3d. The decreased secretion of gastric juice (low acidity) which in some may be combined with an undue amount of mucus.

Differential diagnosis: It is quite easy to separate primary from secondary gastritis by examination of the various important organs. The recognition of organic disease elsewhere will show the true nature of the affection.

It is, however, more difficult to differentiate between chronic gastric catarrh and the other lesions of the stomach, *i. e.*, ulcer, cancer, neuroses, achylia gastrica, etc.

Chronic gastritis is never accompanied by severe pain, and thus presents a contrast to ulcer and cancer. No circumscribed spot painful to pressure in the gastric region, also speaks against ulcer.

There is no hematemesis, and as a rule no marked emaciation in chronic gastric catarrh, while in ulcer and cancer these two conditions are frequently met with.

Now we come to gastric neuroses. It is quite difficult to differentiate between chronic gastritis and gastric neurosis of a depressing nature. The symptoms may be alike in both, especially the diminishing gastric secretion.

The neurosis may sometimes be recognized by the discovery of other nervous symptoms. Sudden changes in the chemical condition of the gastric contents speaks in favor of the existence of a neurosis.

Changes in the subjective symptoms, the entire disappearance of the same for a few days, and then a sudden reappearance, either of the same symptoms as before, or of different ones, are also characteristics of gastric neurosis.

Chronic gastritis, on the other hand, shows as a rule more or less constancy in the condition of the gastric juice as well as in the other symptoms. While changes in the subjective sensations of the patient may occur, they are, however, less abrupt and less pronounced than in the neuroses.

Achylia gastrica is recognized by the total disappearance of gastric juice, i. e., by the absence of hydrochloric acid and the ferments.

Under the head of differential diagnosis I wish particularly to mention uricacidæmia, or gout. It would seem rational to suppose that most of the cases which present the symptom-group of uricacidæmia, or gout, are really cases of gastro-intestinal auto-intoxication, primarily the result of a disordered digestive system.

A neuralgic arm or shoulder, or a neuralgia in the neighborhood of the scalpula, preventing the patient from buttoning his clothes, or, in the case of a lady, adjusting her hat, with neuralgic pains down the arm and forearm, stitch in the back, lumbago in varying degrees, etc., are common symptoms in our practice which I wish to emphasize in this connection.

After noting how constantly these symptoms coincide with disorders of the digestive system, we cannot ignore the recent studies and opinions of such authorities as Luff, Haig, Dyce, Duckworth, Roberts, Von Jaksch, Lancereaux, and others, all of which are ably summarized in an article by Woods Hutchinson, as follows:

(1.) There is no connection whatever between the production of urea and uric acid, hence interdiction and marked limitation of animal or nitrogenous foods as such, in gout, are irrational.

(2.) The uric acid produced in health comes exclusively from two sources: The larger moiety, the exogenous uric acid, from the nucleins and purin bases of the food; the smaller, or endogenous moiety, from the destructive metabolism of the nucleins of the body tissues.

(3.) It is the endogenous moiety alone which is increased in gout and lithæmia.

(4.) Gout and lithæmia are mere symptom-names of a miscellaneous group of chronic toxæmic processes of widely varied origin, characterized by the production of uric acid and the urates.

(5.) By gouty diathesis is meant the possession of a sufficient degree of resisting power on the part of the protective cells of the body to oppose the entrance of any poison, whatever its character or source, with consequent destructive meta-

bolism and production of uric acid, but not adequate to neutralize or successfully prevent its absorption.

(6.) The uric acid of gout, like the phosphoric acid which invariably accompanies it, is merely a result and measure of the destructive metabolism of the nucleins of the body cells, chiefly, probably, of the leucocytes, in response to the invasions of poisons or toxines.

(7.) Hence the use of lithia, or other solvent agent, is irrational, and any benefits resulting from it are to be explained on other grounds.

(8.) As most of the toxines setting up this destructive metabolism and consequent uric acid production, *are of intestinal origin or entry*, diet in gout should be regulated solely with regard to the diminution of *intestinal fermentation and putrefaction.*

(9.) As animal foods are more apt to be indulged in to excess, their limitation may be found to be more frequently necessary than that of vegetable foods, but sugars and starches are also very often at fault.

(10.) As uric acid and the alloxur group *are not toxic*, and are not the cause of gout, the prohibition of foods rich in nucleins and purin bases, such as red meats, roe, and sweet-breads, has no rational basis.

(11.) The role of the liver in gout is a negative one, being inability to perform its chief normal function as a poison filter, and to absorb or transform into harmless excretory substances the excess of toxines brought to it by the portal vein.

Prognosis: The prognosis of a genuine chronic gastritis is not bad. A rational treatment succeeds as a rule, in either curing or materially improving the patient. The ailment is, however, by no means of an indifferent nature. The trouble is more serious the less secretion there is in the stomach. Very frequently we are not able to bring back the stomach to its normal state of secretion, even if we succeed in combatting the subjective symptoms. Relapses are liable to occur.

The next disorder in our classification: Atony of the stomach; gastric insufficiency, atonic dyspepsia; relaxation of the stomach, is closely allied to the foregoing affection. Max Einhorn says that atony of the stomach designates a condition in

which the muscular action of the organ is retarded and weakened. It occurs frequently as a complication in many digestive disorders which greatly weaken the constitution; in chronic gastric catarrh, hyperchlorhydria, neurasthenia gastrica, tuberculosis of the lungs, grave heart affections, and the like; sometimes it occurs as a primary neurosis.

Symptoms: Epigastric discomfort, pressure, weight, or distention, often with eructation. The physical signs are those of a moderate dilatation. The motility is impaired, as evidenced by food three hours after Ewald's test meal; seven hours after Leube-Riegel's meal; headaches, and constipation are frequently present.

The next affection in the group: Dilatation of the stomach, signifies merely an enlargement of its dimensions. Einhorn says such conditions not only exist, but are every-day occurrences.

Etiology: The diminished muscular work of the stomach; stenosis of the pylorus, or an ulcer within or very near the pylorus.

The dilated condition often causes a stagnation of the food in the stomach, and when this is constant, is always a serious trouble.

For the sake of holding my paper within reasonable bounds, I shall not further detail this condition.

Gastroptosis: Closely allied to enteroptosis, since, as Ewald claims that a diagnosis of enteroptosis is justified when, by inflating the stomach with air, the smaller curvature of the stomach is found below the ensiform process or midway between it and the navel.

Now, as to the group belonging to the neuroses, or traceable to a nervous derangement, I shall only mention the most important secretory neuroses:

Hyperchlorhydria, hyperacidity, hypersecretion: A condition in which the stomach secretes a juice more acid than normal, and richer in its ferments.

Gastro-succorrhœa chronica et periodica, indicating, respectively, the conditions of chronic and periodic secretion of gastric juice, even in the fasting stomach.

Hypochlorhydria: A lessened amount of hydrochloric acid in the gastric juice; very rarely is it a neurosis; it occurs in

hysteria, neurasthenia, and locomotor ataxia; it is generally due to glandular destruction, the result of a chronic gastritis.

The treatment of these affections divides itself into general and dietetic, hygienic, medicinal, and local.

In discussing the treatment, we may simplify the indications to be met by the clinical classification of cases according to the functional power of the stomach, which is estimated by its power to do chemical work.

The first group embraces those in which free hydrochloric acid exists in increased or normal amount. In almost half of all patients suffering with digestive disorders, the gastric juice is rather increased. These are mostly nervous cases, or cases in an early and transitory stage of chronic inflammation. For instance, the use of alcohol, at first commonly produces an excessive glandular activity with the excessive secretion of gastric juice, and then leads to an excessive secretion of mucus, and to a lessened secretion of gastric juice, and so on through the different stages to the condition of achylia gastrica.

The second group is characterized by a formation of free hydrochloric acid in less than normal quantities—in well-developed chronic gastric catarrh, and also the hypochlorhydria of nervous origin.

The third group contains cases in which an excessive formation of mucus takes place. An abnormally copious secretion of mucus may occur in any of the other forms, but rarely in the first, and never to the great extent that it may in the second class of cases.

The fourth group is one of atrophic gastritis, when all gastric secretion, whether of free acid, pepsin, or mucus, ceases.

When possible, the cause in each case should be ascertained, and the special form of indigestion determined.

In all digestive disorders the diet should be selected from foods that are palatable to the patient; for this reason we inquire minutely as to what he is accustomed to eat, and what foods he especially likes. The methods of cooking also must be considered.

In general, it may be stated that fried foods, pastries, and foods that are excessively sweet must be forbidden to all who suffer from gastric disorders.

It must be remembered that when the stomach is impaired, it is unable to digest as much as when strong.

The quantity that each patient is to eat must be prescribed with especial care. This may be estimated by determining the especial form of indigestion present, but often can only be determined by trial.

In acute gastritis, or acute exacerbations of chronic gastritis, absolute rest is indicated, or as much rest as can be obtained for the stomach, until the acuteness of the inflammation subsides.

In conditions of the first class, those with excess, or normal amount, of hydrochloric acid, or continuous secretion of gastric juice, with the symptoms severe, a bland diet should be ordered: milk, or milk with vichy, or with white rock, or lime-water, two-thirds of a glass every two hours, to be sipped. Later, when improvement is established, the milk should be continued, but the following, and similar foods may be gradually added and given at meal times usual for one in health; gruels, Mellin's food, tapioca, farina, boiled rice, a milk soup, with peas, or other simple vegetable to flavor it, peas, spinach, a baked potato, bread, scraped meat, fish, oysters, broths, which may be strengthened advantageously with peptones, somatose, or egg; stewed prunes, or a little marmalade. At first a very small portion of these foods should be taken. If on trial no ill effects are felt, more generous portions may be eaten.

It must especially be remembered that changes in diet should be made slowly, and only small quantities of food should be eaten.

An exclusive milk diet should always be maintained for a week or ten days. The additions just enumerated should be made gradually during the ensuing ten or twenty days. No rich gravies or sauces should be used on fish or meat. When meat is first tried, it should be chewed slowly, the juice extracted, and the fibre and pulp rejected. When it is first to be swallowed a little broiled steak should be scraped to a fine pulp, or put through a meat chopper. The meat should be broiled or boiled.

Bread may be permitted only in small amounts, and it must be stale. Pulled bread, zwieback, and crackers are to be preferred.

Bouillons and broths should be used sparingly, as they stimulate the secretion of gastric juice.

Alcoholic beverages are contraindicated. Coffee and tea must be forbidden. The beverages for these patients should

be milk and water only. When the patient is so nearly well that the amount of free hydrochloric acid in the stomach is normal and peristalsis is vigorous, the diet should be chiefly an albuminous one, varied by those vegetables that are not rich in starches. A little bread and fruit may also be allowed. In all these cases carefully made wheat bread is better than bread made from coarser flour, such as graham and corn meal.

As most of these cases belong to persons of a neurotic tendency, and the patient is always of the opinion that he is suffering from a serious and incurable affection, it is the first duty of the physician to convince the patient that his stomach is capable of digesting a full meal, though the task is confessedly difficult.

It is the nervous system that demands especial attention, and the internal medicinal treatment of the stomach is merely palliative.

Medicaments: Nerve tonics, combined with nerve stimulants, are often serviceable. I have found the following combination put up by William R. Warner & Company, in chocolate-coated tablets, of marked value: R. Ext. Damiana gr. 1; Ext. Sumbul, gr. 1-2; Phosphorous, gr. 1-100; Ferri Carbonate, gr. 1; Asafetida, gr. 1-2; Ext. Nux Vomica, gr. 1-10; dose, one or two tablets just before meals, for adults.

All kinds of alkalies can be applied in the treatment of this class of cases. Where hyperchlorhydria is not complicated with constipation, the following combination, or one or the other of the ingredients, may be given alone: Sodium carbonate, sodium bicarbonate, strontium bromide, (in doses of gr. 10 to gr. 15), to be taken about two hours after meals. In cases which are accompanied with constipation, rhubarb or cascara, or the above combination, with magnesia. The bromides, however, should not be continued for more than a week or two at a time.

Strychnine perseveringly used, together with a change of air often proves most beneficial.

Hygiene: Hyperchlorhydria is most frequently caused by too much mental work, the daily life of the patient, as to amount of work, bodily exercise, mental rest, and pleasure, will have to be regulated. With regard to this point the same rules will not apply to all, but it will be necessary to individualize each case for itself. Thus business men with a great

deal of responsibility resting upon them, lawyers, politicians, and physicians, must be sent away from their work to some country place, or some place of rest, so as to relieve their brains temporarily from the strain. Ladies moving in high social circles, and participating in all manner of festivities, will have to be restricted to a more quiet life. On the other hand, those people without ordinary mental or physical occupation who become sick from paying too much attention to their own bodily functions. Here, it will be necessary to occupy the mind with some kind of work.

Cold sponge baths in the morning; bodily exercise of about eight or ten minutes' duration every morning; or walking once or twice a day for half an hour or an hour; horse-back riding, driving, bicycle-riding, etc., should be directed.

Local measures: Occasional lavage, hot and cold douches, electricity (intra-and extra-gastric), and gastric massages, may all prove of distinct advantage by the gymnastic exercise given to the musculature of the stomach, as well as favoring the lymphatic circulation and nutrition.

Now as to the conditions in the second class, which are characterized by a formation of free hydrochloric acid in less than normal quantities; most often in chronic gastric catarrh, rarely is it a neurosis. Here, we are likely to have an abnormal acid fermentation of the food which is too slowly digested.

The diet that has just been advised for those with an excess of hydrochloric acid may be used, but bouillons, broths, meat, and spices, especially salt and pepper, will be found useful stimulants. Often, salt and smoked meat carefully shredded or chopped are both grateful and well borne. They not only have sufficient taste to whet the patient's flagging appetite, but are also less likely to undergo abnormal fermentation than other foods. Creamed cod-fish and minced lean ham, and crisp boiled bacon are the best of these foods. Condiments of a peppery kind are useful, for they stimulate a better secretion of gastric juice.

The food should not be of a bulky character, nor be taken in other than moderate portions; and it is best to eat only three meals a day so as to allow time for the digestion of each. Milk is not so useful as in the first class; it is too bulky, often very slowly digested, and therefore liable to lactic or butryic acid fermentation; at least, it should not be used unless the stomach is intolerant of all food, or much pain is experienced con-

tinuously. It may under these circumstances be given a tablespoonful at a time.

Fish, eggs, meat-juice, minced meat, oysters, bouillons and broths, with pepper, and salt freely added, are the best staples. These may be varied by the addition, in small portion, of such vegetables as lettuce, spinach, tomatoes, peas, string-beans, and celery. Butter and cream in moderate amounts are permitted, as are fruits in reasonable quantities, except the very acid ones, such as strawberries, currants, gooseberries, some cherries, and blackberries, and the sweetest, such as bananas, melons, and some grapes.

Tea and coffee are not well borne.

A sour wine, or whiskey, much diluted with water, will act as a condiment and increase the formation of gastric juice, provided congestion is not great, inflammation not active, and abnormal fermentation is not marked. Under any of these latter conditions—and one or the other is usually present—they are contraindicated, as, on the other hand, the wine will spoil and produce acetic acid, and, on the other, it will increase congestion and inflammation. Water is the best beverage. It is often most beneficial if taken hot, two teacupfuls at a time, half an hour before meals, to which add a pinch of bicarbonate of soda, or a couple of soda-mint tablets to each cup. It will help to wash from the stomach the remnants of the last meal, and to dislodge and remove any excess of mucus, leaving the stomach in a better condition for the reception of the next meal.

Carbonated waters, such as plain soda, vichy, apollinaris, and effervescent natural or artificial lithia waters, are useful in mild cases, as the gas stimulates normal gastric secretion.

The mineral spring waters containing sodium chloride and carbonic acid, and those containing sulphate of sodium, carbonate of sodium, and carbonic acid are to be recommended, the first, (saline waters) to be preferred in most instances, and the second (alkaline saline waters) to be employed in patients in whom constipation forms a very marked symptom. The use of these springs should, however, not extend over too long a period of time. Patients of a nervous character should not partake of these purgative waters. Both the saline and alkaline saline waters can be taken at home, if the patient is not able to go to the springs. It is best to have the patient drink

about a tumblerful of either of the waters early in the morning, about an hour before breakfast.

Hygienic regimen: Out of door life, regular, gentle exercise, and freedom from all mental strain are conditions in many cases essential to successful treatment; hence the greater value of a sojcurn at the springs.

The direct means, however, of improving the patient's condition comprise the following: 1st, Lavage; 2d, Electricity; and, 3d, Medicaments.

Lavage: In most cases of chronic gastric catarrh washing out of the stomach will prove beneficial. The mucous form of gastritis is especially benefited by this means. The lavage should be performed in the morning or in the fasting condition of the patient. Pure, luke-warm water should be used in this procedure. Occasionally a small quantity of common table salt may be added. The lavage should be employed every other day for a period of two or three weeks. It is not advisable to entrust this procedure to the patient, as he is apt to overdo it.

Electricity: In order to stimulate the stomach, the faradic current is of value. Either the percutaneous, or the intra-gastric, method may be used. For the percutaneous electrization a very large sponge electrode is put over the abdomen, covering the entire gastric region, while the other, a smaller electrode, is held to the left of the seventh dorsal vertebra. The intra-gastric electrization is claimed by Einhorn to be much more effectual, and therefore preferable to the percutaneous method. The intra-gastric method is applied by the use of Einhorn's deglutable stomach electrode. By means of the intra-gastric faradization, Einhorn claims that all the subjective symptoms frequently disappear, and if the treatment is administered over a period covering two or three months, there is often a lasting amelioration in the condition of the patient. The cases most suitable for this mode of treatment are those forms of chronic gastric catarrh in which not much mucus appears in the stomach.

Medicaments: Diet, hygiene and the mechanical means of treating the stomach are much the most important, but in some instances medicaments are also serviceable. Hydrochloric acid given in six to twelve drops in a glassful of water, to be taken three times a day half an hour after meals, not drinking

the whole glassful at once, but one-third at a time, at intervals of a quarter or half an hour, will often relieve the distressing symptoms and give the patient a good start. Einhorn says the artificial aids to digestion, however, are certainly not necessary, the more so since if employed for long periods of time they frequently become injurious to a certain extent. Every organ is strengthened by activity, and weakened by the lack of exercise. Predigested foods, or medicaments, which contain the active principles of the gastric juice serve to replace work done by the stomach, and will in the course of time have a deteriorating effect upon the gastric functions. While the too constant use of hydrochloric acid is not wise, the so-called bitter tonics, condurango, quassia, gentian, columba, and nux vomica are effective stimulants of the gastric functions; they increase the appetite and in this way make the stomach fit to receive more food, and thus improve nutrition. All these bitters are to be taken about a quarter of an hour before meals in about a tablespoonful of water or wine.

A prescription I have often used to a great advantage in arousing secretion and digestion in long standing cases, is as follows: Papoid, gr. ii, dil. muriatic acid, gtt. iii, chldrioe of gold, gr. 1-32 in elix. lactopeptine ʒ ii. To be taken 15 minutes after meals in ¼ glass of water.

Constipation: Chronic gastric catarrh is frequently combined with constipation, and it will be necessary to speak of the management of this complication. As a rule, the less drugs are used to combat this affection, the better. The means available for this trouble are regularity in going to the water-closet; straining is to be avoided; and as to diet all foods which contain a large percentage of cellulose (undigested matter) increase the quantity of fæces, and thereby effect a stronger peristalsis of the large bowel. All kinds of green vegetables (spinach, asparagus, green peas) and rye bread are therefore suitable. Many organic acids possess the property of increasing intestinal peristalsis. Almost all kinds of fruits contain a certain quantity of these organic acids, and act like mild aperients. The use of cooked pears, stewed or baked apples, or stewed prunes, is in many instances effective. The custom of eating an orange in the morning, for its laxative effect, is well known.

When the above dietary does not suffice, the administration of a mild cathartic is necessary. Cascara and rhubarb are the

best. These remedies should not be used for too long a time, and the patients should always accustom themselves to get along with fewer of them, and ultimately without them. In cases in which there is atony, or weakness of the large intestine, the use of enemata is indicated. Salt solution should be used and should be employed at the same time every day and continued for about two weeks. Glycerine suppositories are also an aid to overcoming this inertia of the larger intestine.

THE OFFICE TREATMENT OF RECTAL DISEASES.

By M. S. Davie, M. D., of Dothan.
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The title of the paper, you will please bear well in mind, is "The Office Treatment of Rectal Diseases."

It is not, for instance, "The Surgical Treatment of Rectal Diseases;" "The Orthodox Treatment of Rectal Diseases;" "The Most Approved Treatment of Rectal Diseases;" or, "The Most Satisfactory Treatment of Rectal Diseases."

And, in treating the subject from this selected and exclusive standpoint, no criticism or disapproval is meant for the other methods of treatment. In fact, it is frankly admitted that some of the other methods of treating rectal diseases, should be given consideration in advance of the measures hereinafter outlined.

But in this article we are supposed to have a patient who will not, or who cannot, be treated under general anesthesia; but who can, and possibly should, be treated in the office in other ways.

The most frequent rectal trouble is the pile tumor. In carefully selected cases the simplest treatment is the injection method. According to Tuttle, Andrews, Gant, and others, a young physician named Mitchell, of Clinton, Ill., in 1871, originated the injection treatment of hemorrhoids, keeping his

treatment a secret and selling it to itinerants, drug clerks, farmers, irregular physicians, or any one who had the money to pay for it. Itinerants subsequently scattered this treatment everywhere, selling the secret for whatever price they could get, until they compelled the attention of the regular profession.

Andrews, of Chicago, in 1876, after a series of investigations and communications, established the fact that Mitchell begun this treatment by using one part of carbolic acid and two parts of olive oil. It appears that Mitchell's followers, first and last, used every sort of injection, but generally returned to carbolic acid, which was varied in strength from two to one hundred per cent.

Out of 3,304 cases treated by these people, 13 deaths were reported, many cases of abscesses, hemorrhage and other complications.

Gant says that most of the surgeons in America and Europe have condemned the injection treatment of hemorrhoids, though Tuttle claims that recently a better knowledge of the class of cases to which this method is applicable has led many surgeons to give it a trial, and that their reports are very satisfactory. Kelsey enthusiastically endorsed this treatment at one time, publishing a record of one hundred cases, claiming "that the method was easy and certain, especially in cases of long standing, and that the piles could be cured without risk, pain or delay from business." He subsequently recanted to a considerable extent, and asserted that this method should only be used in selected cases.

Here, as elsewhere, extremists and enthusiasts abound. Some say inject everything, internal, external, and mixed tumors of every class and stage; others of eminence condemn the method in unmeasured terms, relegating it to the ranks of quacks and incompetents.

The agents which have given the most satisfaction in the injection of hemorrhoids are carbolic acid, Monsell's solution, ergot, alcohol, tannin, lead acetate, sodium biborate, zinc chloride, zinc sulphate, chloral hydrate, salicylic acid, tincture hamamelis, and tincture thuja. But carbolic acid is the approved agent, and wherever the injection treatment is endorsed it is based upon the use of this drug. I judge that the purity of the acid materially influences the result, for I find that those who use this drug contend for Calvert's crystals No. 1. The most popular solution is Agnew's, which is a combination of Price's

glycerine, sodium biborate, and lead acetate, and Calvert's crystals No. 1. It is 50 per cent. carbolic acid. It is claimed that there is no danger of carbolic acid absorption and poison when the solution is 50 per cent. or stronger. A solution of this strength forms an immediate insoluble coagulum, which is inert, so far as acid absorption is concerned.

The most satisfactory instrument for investigating the rectum for internal hemorrhoids are medium sized Brinkerhoff and O'Neill speculæ. They are cone-shaped, have removable slides, and can be lubricated and used with little discomfort in a sensitive rectum. But it is seldom necessary to look for internal hemorrhoids higher than the upper margin of the internal sphincter, about an inch from the verge of the anus, and if the tumors are of any appreciable size, the patient can always strain them down. If they are not readily forced into view by this bearing-down process, give a warm water enema, or put the patient on a table and give him hot anal compresses for a few minutes. A tumor on either side of the rectum and as high up as hemorrhoids usually form and no larger than a pea, can be seen by drawing the mucous membrane down by external digital manipulation, and the patient extruding the parts by straining as if at stool. Exceptionally, there is hysterical contraction of the sphincters, or the patient has an inability to relax the muscles.

It matters not what form of internal hemorrhoids you may have, it is equally amenable to the injection treament in selected cases.

The capillary variety is small, flat or sessile, composed of arterial terminals, the beginnings of veins, and the capillaries which join them, presenting a thin covering of punctated granular appearance and bleeds on the slightest provocation.

The arterial hemorrhoid is large, having the glazed appearance of a ripe strawberry, is liable to erosion, hemorrhage, prolapse or inflammation, and has arteries and veins freely anastomosing.

The venous hemorrhoid is not very sensitive, appears blue and sluggish, and may be hard or soft.

The physician is usually confronted with the patient during an acute attack, which is an inopportune time for any kind of permanent treatment. Palliative measures, hot water douches, witch hazel injections, will help to reduce local engorgement.

In large growths, whether the patient is undergoing a hemorrhoidal paroxysm or not, preparatory treatment will minimize the tumors and mitigate the post-operative pain and local reaction. Sulphur purgation opens the portal circulation and reduces the local congestion, but it is well to remember that the effect of this drug persists for several days after the administration of the last dose. The colon should always be flushed with a copious warm water enema before treatment.

I am persuaded that the injection of external, or of mixed piles is seldom satisfactory. Neither would I inject the psychic, whose soul is in his rectum and whose anal sphincter begins contracting the moment the air strikes his exposed buttocks. He will howl over every manipulation, and assert and believe he suffered death under your treatment.

Having determined to use the injection treatment in a selected case, give the patient a warm water enema, put him on the table with the pile tumor uppermost to guard against any possible gravitation of the caustic solution in the tissues beneath the tumor. Bring the tumor well into view by digital manipulation, and by having the patient strain down. Exceptionally, a speculum is necessary, when the Brinkerhoff is very satisfactory, as it affords access, causes practically no discomfort, and can be held in position by the patient, after you have placed his hand for him. Anoint the tumor with liquid petrolatum to protect the mucous membrane from the cauterant action of any of the injection solution which may be accidentally deposited upon it. An ordinary hypodermic syringe may be used, but the cavity of the needle should be slightly above the average, as carbolic acid solutions are heavy and not readily forced through a small needle. In an ordinary sized tumor introduce the needle immediately on the pile side of the junction of the tumor and underlying tissue, carry the needle about to the opposite side, and very slowly withdraw it, depositing the solution drop by drop as this is done. The tumor will be observed to take on a peculiar and distinctive blueish-gray appearance. Should it not do so, reintroduce the needle closer to the surface and proceed as before. The tumor should take on this distinctive hue before it is left, as it is not thoroughly cauterized until it presents this appearance, and it is not successfully treated until it is thoroughly cauterized. Do not inject more than one large, or two small, tumors at one treatment, having the patient return for consultation in about ten

days, but do not operate again until the soreness has subsided.

The pain is generally of short duration, but should it persist, hot applications to the anal region will contribute to the patient's comfort. Opiates are infrequently needed and should be given by the mouth, and not by suppository, as the opiate can only relieve the pain by systemic effect. Camphor and opium pills in dose sufficient to constipate should be given for several days after the operation. Then a dose of salts should be administered and four ounces of olive oil introduced into the rectum by the patient himself, when intestinal peristalsis is produced.

Now, Mason has devised an instrument which he calls a continuous suture clamp. It is not unlike an ordinary pair of uterene dressing forceps, except that it has a thumb screw for gradually tightening on the pile tumor and for keeping it in place when tightened. He claims that a satisfactory operation can be performed with this instrument on any case "sufficiently developed to allow the tumors to be prolapsed so that they may be grasped with a pair of forceps." He contends, also, that this is one of the very best operations for the mixed or internal and external tumor where the whole mass may be grasped in the jaws of the forceps. To perform his operation saturate a piece of cotton in a strong solution of cocaine and introduce it from the rectal pouch to the external sphincter, and allow it to remain for some ten or fifteen minutes, when the sensibility will be partially obtunded, and the tumors may be handled without pain. Get the tumor on the outside, grasp it with this instrument just tight enough to keep it from slipping off, inject the tumor well with a four per cent. solution of cocaine, wait a minute or two, close the clamp and cut the tumor smooth with the instrument. Begin at the upper end of the clamp, using a medium sized curved needle threaded with catgut, pass the needle over and under the clamp, with loose continuous stitches about a quarter of an inch apart, until the lower end of the clamp and cut surface is reached, and remove the clamp and make taut the sutures. The two ends of the sutures had best be secured with a clamped shot. All the tumors may be operated upon at one time, or they may be taken singly at intervals of two weeks. It is claimed that this is a very satisfactory operation, safe, without complications, and applicable to any accessible pile tumor, and may be performed with no assistance and little difficulty. It is said, further, that

if but one tumor is operated upon at a time the patient need not go to bed, or stop his ordinary work.

The same author has another instrument identical with the former, to be used in the same way, except that it has a notched edge extending one-eighth of an inch above the jaws, through which ligatures are passed and each tied tightly, after which the clamp is removed.

There are forms of capillary hemorrhoids in which there is systemic anemia and constant loss of blood, but an examination reveals no tumor, simply a nevoid spot, from which slight tittillation may cause an ooze of blood. The rational treatment is to obliterate the capillaries and leave an eschar. A submucous injection of 50 per cent. carbolic acid may accomplish this, but a simpler and quicker method is to apply fuming nitric acid with a glass rod, with or without a preceding application of cocaine. Soda solution should follow to neutralize any excess of the acid. This treatment causes no pain and requires no after treament. Care should be taken not to put the acid anywhere except the desired spot or spots. The surrounding parts should be liberally smeared with vaseline.

Gant, who has criticized the injection treatment of hemorrhoids so stringently, claims to have an ideal method for the office treatment of rectal diseases. He produces local anesthesia by the gradual injection of sterile water to the complete distension of the tissues. In external thrombotic hemorrhoids it is only necessary to make an intra-dermal injection of sterile water. In the exercising of cutaneous hemorrhoids satisfactory anesthesia is only obtained by tightly distending both skin and tumor. He says: "Large internal venous or capillary hemorrhoids can be anesthetized within thirty seconds by injecting directly into the center of each tumor sufficient sterile water to distend it tightly and cause it to turn white. They can then be removed painlessly by the ligature, clamp and cautery, or excision method." Follicular and marginal abscesses may be almost painlessly opened by intradermal injections immediately over the abscess, subcutaneous distension being needless. Small, not large, ischio-rectal abscesses, may be likewise opened. Moderate prolapsus ani may be operated upon with only trivial pain by first thoroughly distending with the sterile water the areas of mucous membrane and muscular structures which are to be removed by clamp and cautery, or by distending the lines of incision when a segment of the bowel

is to be excised. By thoroughly injecting the skin and subcutaneous structures up to the anal margin, and then injecting the mucosa, sub-mucosa, external and internal sphincters, painless operations may be performed for fissures, fistulæ, ulceration, epithelioma, stricture, congenital anal malformations, or constipation, fecal impaction, or any condition requiring increased capacity of outlet necessitating incision or even division of the muscle. It is claimed that these operations by this method can be performed in the physician's office, and that the patient can, without undue discomfort, report for subsequent treatment; that the local anesthesia is rapid and effective; that there are no annoying or dangerous sequellæ; less succeeding pain or hemorrhage than when medical local anesthetics are used; it avoids the dangers and distress of general anesthesia, and, also, the increased pain and hemorrhage due to straining and vomiting frequently following general anesthesia.

Gant claims that though this method of securing local anesthesia is insufficient for major operations, he has employed it, exclusively in nearly all of his rectal operations, "and with such gratifying results that he would heartily recommend its thorough trial by other surgeons." As touching the injection treatment of hemorrhoids, he says: "The radical treatment of hemorrhoids can be so easily carried on under this method in the physician's office, with so little danger and inconvenience to the patient, that it should relegate to oblivion the much-vaunted injection treatment, which is so dangerous and uncertain."

Martin (Jour. A. M. A., April 26, 1902) describes the painless removal of non-malignant anal growths by using a one-tenth per cent. solution of eucaine and a special clamp which he describes. I have been unable to understand the operation to my satisfaction, but do not think I approve it.

Dr. Lucien Loften, of Virginia, has treated hemorrhoids to his satisfaction by the injection of boiling water.

Though quacks have monopolized the injection treatment of hemorrhoids, many reputable physicians have used the treatment with success and satisfaction, and when a patient declines a radical operation, it is but right, perhaps, to advise him of this treatment, and allow him his decision.

As to anal fistulæ it seems that, as to variety, we have the complete, internal incomplete, external incomplete and complex. These terms are definitive. Generally speaking, all

forms are subsequent to and consequent upon abscess, which in turn arises from rectal infection or trauma of the ischio-rectal region. The anatomy of this area is peculiarly favorable to pus formation. The external opening of simple fistula is usually to be found immediately contiguous to the anal outlet; while the internal opening of a simple fistula is generally about a half inch within the rectum in the middle posterior line immediately above the fibres of the external sphincter. Next in order the internal opening of a simple fistula should be sought between the sphincters on the right or left anterior sides. There is no given regularity as to the openings, internal or external, of a torturous, complex or horseshoe fistula.

There is considerable diversity of treatment for fistula in ano, but the knife is becoming more and more the operation of election. From Gant's article on the production of local anesthesia by sterile water injections, it would seem that most cases could be operated upon without general anesthesia. This would simplify things very much. I should think this method, if effective, preferable to a medicinal local anesthesia, particularly the use of cocaine, which is a treacherous drug in more ways than one. By either general or local anesthesia, however, the knife operation should be the one of selection. Two points are of special importance: rigid asepsis, and the division of the sphincter at the right angles. The fistulous tract should be carefully scraped at the time of operation. It is thought that ultimate success depends almost wholly upon the after treatment. After the operation the fistulous tract should be irrigated and packed, but the packing should not be tight enough to break down granulations and retard repair, and repair should only be allowed from the bottom.

Dr. Frederick Lange reported a number of cases a few years ago which were treated by total excision and the buried suture, and highly recommended this operation, but it is one that has never become popular, and I should think would not often be followed by primary repair.

Professor Dittel, and Allingham, Sr., brought into prominence the ligation treatment of fistula in ano, though Lee, Molthouse, and Celsus have received credit for originating the operation. Allingham and Helmuth particularly have devised ligature carriers by which the operation may be more readily performed. It might be proper to explain this treatment to the patient who refuses the knife, or to the tuberculous or

coughing patient. The elastic is preferable to the silk ligature. A solid rubber cord of a diameter of one-tenth inch and of sufficient strength to exert a pressure equivalent to two and a half pounds under full stretch, about meets the requirement. The ligature is drawn through the sinus from within outward, both ends secured, the proper tension made, and the ends fastened by tying or the use of a clamped shot. The latter is easier and more reliable. The ligature produces local necrosis and cuts its way out in from three to fourteen days, usually about six. There are objections to the method which are fully detailed in the literature.

Dr. Mathews, Ex-President of the American Medical Association, and the author of a recent felicitous book entitled, "How to Succeed in the Practice of Medicine," originated the scarification treatment, and invented an instrument for performing it which he called the fistulatone. It is particularly adapted to the external blind fistula running parallel with the rectum. The instrument, which is probe-pointed and but little larger than an ordinary probe, has two concealed blades in the distal end which can be uncovered simultaneously by manipulating a screw in the handle. The tract should first be irrigated with hydrogen dioxid and moderately dilated, when the instrument is introduced to the further side, the blades released and the instrument withdrawn. The blades cut deep enough to divide the indurated tissue. It is well to introduce hydrogen dioxid through a canula and pack with a wisp of gauze until the granulations are well established.

Various escharotics and astringents have been introduced into fistulous tracts for their cure. The agents used are principally the ones mentioned in the injection treatment of hemorrhoids, though concentrated solutions of silver nitrate are accorded first choice, instead of carbolic acid. Bennett has treated a large number of cases with the strong silver solution, and Goodsall and Miles are partial to this remedy and method where the inner opening is above the internal sphincter. Powell advocates the use of pure carbolic acid instead of silver nitrate. Bodenhamer, however, is quite pleased with his success in the treatment of simple and superficial anal and rectal fistulæ by the use of silver and copper probes. The silver probe may be coated with silver nitrate by holding it in the fused salt, and the copper one may be coated with nitrate of copper by dipping it in nitric acid. The probes are introduced in to the fistulous tract.

Whatever agent may be used, the medicated probe, or some other form of escharotic, it is well to obtain good drainage, and Allingham recommends for this purpose the use of a bone collar button, with a hole drilled through the middle, and the small end of the button inserted into the fistula.

Fissure, or irritable ulcer of the rectum, is one of the most baneful maladies which overtake a patient. The pain is agonizing for hours after defecation, the usually accompanying pruritus is maddening, and there is frequent profound melancholia. The anticipated sufferin, following a movement of the bowels will frequently compel the patient to go for days without an action, when the expulsion of hardened feces intensifies the local condition. Again, the suffering incident to a fecal passage often causes the patient to take some drug before going to stool to blunt the succeeding pain, and thus makes an habitué of himself.

The typic fissure will hurry the patient to the physician's office, where the diagnosis is readily made, a little digital manipulation revealing a narrow slit from one-fourth to three-fourths of an inch in length and one-sixteenth to one-half of an inch in breadth, situated at the muco-cutaneous juncture.

The treatment of fissure, or irritable ulcer of the rectum, is gradual dilitation, curettage, cauterization, divulsion, or excision, and the technique is quite simple. A very satisfactory mehod, after swabbing the fissure with peroxide of hydrogen and soaking it with a pledget of cotton saturated with ten per cent. cocaine, is to sponge it thoroughly with strong silver nitrate solution, which forms a protecting coating of albuminate of silver. Failing in this because of too great sphincteral contraction, the same preparation should be followed by lightly drawing a keen edged bistory through the center of the fissure, and stabbing the fissure in several places. The constitutional condition of the patient should always receive careful attention.

Rectal ulcer is much more extensive, but is usually above the grasp of the sphincters and generally causes but little pain, in some instances none, and is frequently overlooked until the patient is gravely devitalized. Rectal ulcer should always be suspected and the rectum investigated in protracted cases of chronic diarrhœa.

The treatment of rectal ulcer is elaborate and tedious, and fully detailed without contradiction in the literature.

PROSTATECTOMY—ITS INDICATIONS AND TECHNIC.

By William R. Jackson, M. D., of Mobile.
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The vanguard of the surgical world representing the progressive and aggressive surgeons of today are grappling with the heretofore misunderstood and often undiagnosed pathologic conditions, whose exponents can be read in pancreatitis, gastric-ulcer, infected gall-bladder, typhoid perforations, appendicitis, surgical kidney, and senile prostatic hypertrophy. It is to one of the surgical treatments of the last-named condition that I wish to direct your attention for only a few minutes.

Enlargement of the prostate gland, hyperthropic or neoplastic, often produces pathologic conditions that jeopardize the life of the patient and frequently result in death. The real cause of general hypertrophy of the prostate gland is not known.

Prostatic obstruction to the outflow of urine causes a series of very intereesting changes in the genito-urinary tract at and above the point of occlusion. The most conspicuous pathologic states or conditions sequent to prostatic enlargement are:

First. Elongation and increased curvature of the prostatic urethra.

Second. Hypertrophy and fasciculation, dilatation and saculation of the bladder.

Third. Dilatation of the ureters and pelves of the kidneys.

Fourth. Cystitis (with resulting phosphatic calculi) ascending ureteritis, and pyelonephritis.

Fifth. Sepsis, Uremia, and death.

Catheterization, together with urinary antiseptics (urotropine and cystogen) and bladder irrigation, should constitute the treatment of prostatic enlargement under the following con-

ditions: When catheterization is not very painful; when the patient is intelligent and dexterous with the catheter; when the obstruction is not very great; when cystitis is not very severe; when the residual urine is not very large; when the bladder retains considerable expulsive power. When the palliative treatment fails after a reasonable trial, then operative procedure of some kind should be practiced. Simple drainage of the bladder, supra-pubically, or through the perineum, has failed to give permanent relief to these cases.

It is only quite recently that *complete* removal of the prostate gland has been practiced with any degree of success. The great difficulty in removing the prostate is its inaccessibility. It is more than the finger's length from the perineal or pubic surface, hence digital palpation is quite impossible, without some other aid in elevating or depressing the gland. Prostatectomy, partial or complete, is indicated under the following circumstances: If all the symptoms are growing worse; if the patient is too careless or ignorant to be trusted with a catheter; if obstinate retention of urine occur; if catheterization is painful or impossible; if there be persistent or recurrent cystitis or hematuria; if the residual urine gradually increases in amount; if there are signs of beginning infection of the kidneys. The prime mechanical indication to be met in prostatectomy is to lower or depress the level of the opening from the bladder to the prostatic urethra, which is done by removing the intervening bridge of prostatic tissue; of course, this most often includes all of the prostate and the ejaculatory ducts and part of the bladder walls. There should not be any prostatic pouch left to retain residual urine. Temporary drainage of the bladder after cystotomy (supra-pubic or perineal) should always be used in old and exhausted patients with damaged kidneys, and, complete prostatectomy postponed until the patient's general condition will permit of it.

Some surgeons prefer the supra-pubic, while others choose the perineal route, and others still select the combined route, and remove the gland by the easiest and the most accessible way.

The direction of the prostatic growth often determines the location of the incision and opening in the bladder. If the enlargement is intravesical, the supra-pubic is chosen; if the growth is towards the rectum or urethra, the perineal route is selected. Usually the rectal touch, the urethral sound, and

the use of the cystoscope enable the surgeon to diagnose the position of the enlargement, but the true diagnosis or actual location of the growth is not determined until the bladder is opened from above or below.

It is now conceded that it is always necessary to make perineal drainage in all cases, hence the majority of the best surgeons prefer this route. The claims which make this route the more preferable are: Less hemorrhage and better drainage.

The advantages of the supra-pubic are: Better access to the interior of the bladder; calculi and growth can be seen and removed; encysted stones can be located. Some of the disadvantages are: Damage to the sphincter of the bladder; is very often followed by inability to expel the urine; the ureters may be injured, and subsequently become obstructed by cicatricial contraction. This route is not suitable, if the bladder is markedly contracted, or if the abdominal walls are very thick. Sterility always follows prostatectomy, whichever route is selected, as the ejaculatory ducts are injured or destroyed. The removal of an adenomatous prostate is very easy by enucleation either from above or below, but a fibrous, hyperthrophied, gland is not easy of removal by any means; enucleation being out of the question, morcellation must be practiced with scissors and biting forceps, making it a slow and tedious, as well as a bloody procedure.

The supra-pubic operation is preferred by Bellfield, McGill, Dittel, Guiteras and Fuller, each having his own peculiar and special points in the procedure. All make the vertical abdominal incision and use suture retractors of heavy silk. Some German surgeons make a curvilinear incision in the abdominal wall instead of the vertical. The technic briefly described is:

First. Abdominal incision.

Second. Vesical incision.

Third. Trendelenburg's position.

Fourth. Exploration of the interior of the bladder by finger and light.

Fifth. Incision of the mucous membrane, capsule, and enucleation of the gland.

Sixth. Irrigating and putting in bladder-drains, above and below.

Fuller pushes the gland up by fist in the perineum. Guiteras does the same by fingers in the rectum, while Bellfield makes a perineal incision through which he inserts his fingers and pushes up the prostate to make it more accessible to enucleation.

The perineal route is selected by Nicoll, Bryson, Alexander, Syms, and Zuckerkandl, some of whom make also a suprapubic incision, so that the prostate can be pushed down into the perineal opening.

The steps of this operation are:

First. Longitudinal perineal incision on a vesical staff.

Second. Opening of the membranous urethra, extending incision to the prostate.

Third. Exposing the prostate, opening the capsule with fingers or scissors.

Fourth. Enucleating the gland.

Fifth. Inserting the drainage tube.

Parker Syms uses a rubber bulb on a stiff catheter as a tractor; the bulb is inserted through the perineal incision in a collapsed condition into the bladder, which, after being inserted, is filled with water. Traction on the instrument will bring the prostate nearer the perineal cut and facilitate removal. Zukerkandl, of Vienna, makes an incision parallel to the rectum extending from one tuberosity of the ischium to the other, then a blunt dissection is made with the finger or scissors, separating the rectum from the prostate gland, and, this gland is then clearly exposed by using a large perineal retractor fixed to the operating table. An incision is then made into the membranous urethra, through which he inserts a special metal tractor, which opens and closes like an Otis urethrometer. With this instrument he draws the bladder into the field of operation. The capsule of the gland is next opened and the gland "shelled out" by the finger, care being taken to avoid the median line, lest he aggravate hemorrhage. Even where the gland is very fibrous and tough, he has very little trouble in removing it. He does this operation very often, and certainly very dexterously, claiming a mortality of only seven per cent. in his last series of cases. Last summer I had the pleasure of seeing him do three prostatectomies at Rothschild Hospital, Vienna.

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The results of prostatectomy, supra-pubic or perineal, are not entirely satisfactory, as functional results are often disappointing.

The patient often has no power to expel the urine, due to injury to the bladder, also to atony previous to operation. Results in the majority of cases are good, many patients completely recovering, especially when the operation was done early. This alone should encourage us to continue the good work. The mortality varies from twelve to twenty per cent. in ordinary cases.

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By W. S. Britt, A. B., M. D., of Eufaula.
Member of The Medical Association of the State of Alabama.

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"The floor of an ulcer consists of embryonic tissue."

Molecular death of a free surface is the origin of an ulcer.

This disease is characterized by low action and slow progress.

I know of no disease or affliction with which the practitioner has to deal that is more troublesome than that characterized by chronic leg ulcer. As the name implies, it is usually of long standing, though it may be chronic from the start, and it is often the case that it is of very long standing before it falls into the hands of a physician. This is a disease for the cure of which a patient is always grateful and for which he is usually willing to pay a reasonable fee.

It has been my lot to treat several obstinate cases within the past few months; and, consequently, I have made close investigation and being well pleased with the results obtained, I desire, in as few words as possible, to present the methods pursued for your consideration and discussion.

There were three cases which seemed especially unfavorable and I wish to briefly relate them:

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The floors were uneven and had the appearance or color of liver. The edges of two were thick and insensitive to touch, while that of the other was thin and undermined. They were discharging a very offensive matter.

The aim in view in the treatment is to convert a chronic, into an acute, ulcer. All such patients require a reconstructive tonic, and I knew of none better than potassium iodide, so each patient was put on ascending doses of the drug.

Local Treatment: The ulcer is rendered aseptic, the floor scarified and the edges incised in numerous places, each incision going through the deep fascia. The incisions relieve congestion, permit contraction and allow granulations to spring up in them which end in absorbing the exudate.

After the bleeding ceases the floor of the ulcer is touched with pure nitric acid and covered with iodoform; a close fitting bandage is then applied from the toes to the knee, and the patient instructed to return in three or four days. On his return the parts are bathed in a 1 to 5,000 bichloride solution. A small piece of sterile gauze saturated in a ten per cent. mixture of balsam of Peru in castor oil is now placed over the

ulcer and the surrounding tissues painted with tincture of iodine and alcohol (1 to 3), which acts both as a counter-irritant and antipruritic. The bandage is again applied as before. On the third examination healthy granulations are appearing. This plan is followed until instead of a chronic ulcer there is an acute one, and the next effort is to cure an acute ulcer. This is best done by rendering antiseptic, and covering the granulation with an antiseptic and astringent powder, and the application of adhesive strips. The zinc oxide adhesive plaster being preferable on account of not possessing irritating properties, and then snugly bandaging the extremity as before. The most efficient powder of which I know is protouclein special. The ulcer is covered with this powder and with adhesive strips one-half inch wide; begin at the lower margin of the ulcer and draw the strip across as tightly as possible, endeavoring to approximate the edges of the ulcer. Slightly overlapping the edge of this strip with another, and so on until the ulcer is entirely covered. Do not allow the leg to be entirely encircled on account of obstructing the return circulation. Snugly bandage the extremity. Redress every four or five days, and at each examination you will find the ulcer smaller, and in a short time there will be none.

STRICHNIA AS AN EVACUANT.

By George E. Pettey, M. D., of Memphis, Tenn.

First Vice President of Tri-State Medical Society of Alabama, Georgia, and Tennessee. Proprietor Dr. Pettey's Retreat for the Treatment of Alcohol and Drug Addictions.

The importance of regularly and thoroughly emptying the intestinal canal can scarcely be overestimated, since the excrementitious matter thrown off through it, if retained, would inevitably result in the death of the subject. Failure to evacuate the bowel at regular and proper intervals leads to the reabsorption of a large per cent. of the matter prepared by the system

forms are subsequent to and consequent upon abscess, which in turn arises from rectal infection or trauma of the ischio-rectal region. The anatomy of this area is peculiarly favorable to pus formation. The external opening of simple fistula is usually to be found immediately contiguous to the anal outlet; while the internal opening of a simple fistula is generally about a half inch within the rectum in the middle posterior line immediately above the fibres of the external sphincter. Next in order the internal opening of a simple fistula should be sought between the sphincters on the right or left anterior sides. There is no given regularity as to the openings, internal or external, of a torturous, complex or horseshoe fistula.

There is considerable diversity of treatment for fistula in ano, but the knife is becoming more and more the operation of election. From Gant's article on the production of local anesthesia by sterile water injections, it would seem that most cases could be operated upon without general anesthesia. This would simplify things very much. I should think this method, if effective, preferable to a medicinal local anesthesia, particularly the use of cocaine, which is a treacherous drug in more ways than one. By either general or local anesthesia, however, the knife operation should be the one of selection. Two points are of special importance: rigid asepsis, and the division of the sprincter at the right angles. The fistulous tract should be carefully scraped at the time of operation. It is thought that ultimate success depends almost wholly upon the after treatment. After the operation the fistulous tract should be irrigated and packed, but the packing should not be tight enough to break down granulations and retard repair, and repair should only be allowed from the bottom.

Dr. Frederick Lange reported a number of cases a few years ago which were treated by total excision and the buried suture, and highly recommended this operation, but it is one that has never become popular, and I should think would not often be followed by primary repair.

Professor Dittel, and Allingham, Sr., brought into prominence the ligation treatment of fistula in ano, though Lee, Molthouse, and Celsus have received credit for originating the operation. Allingham and Helmuth particularly have devised ligature carriers by which the operation may be more readily performed. It might be proper to explain this treatment to the patient who refuses the knife, or to the tuberculous or

coughing patient. The elastic is preferable to the silk ligature. A solid rubber cord of a diameter of one-tenth inch and of sufficient strength to exert a pressure equivalent to two and a half pounds under full stretch, about meets the requirement. The ligature is drawn through the sinus from within outward, both ends secured, the proper tension made, and the ends fastened by tying or the use of a clamped shot. The latter is easier and more reliable. The ligature produces local necrosis and cuts its way out in from three to fourteen days, usually about six. There are objections to the method which are fully detailed in the literature.

Dr. Mathews, Ex-President of the American Medical Association, and the author of a recent felicitous book entitled, "How to Succeed in the Practice of Medicine," originated the scarification treatment, and invented an instrument for performing it which he called the fistulatone. It is particularly adapted to the external blind fistula running parallel with the rectum. The instrument, which is probe-pointed and but little larger than an ordinary probe, has two concealed blades in the distal end which can be uncovered simultaneously by manipulating a screw in the handle. The tract should first be irrigated with hydrogen dioxid and moderately dilated, when the instrument is introduced to the further side, the blades released and the instrument withdrawn. The blades cut deep enough to divide the indurated tissue. It is well to introduce hydrogen dioxid through a canula and pack with a wisp of gauze until the granulations are well established.

Various escharotics and astringents have been introduced into fistulous tracts for their cure. The agents used are principally the ones mentioned in the injection treatment of hemorrhoids, though concentrated solutions of silver nitrate are accorded first choice, instead of carbolic acid. Bennett has treated a large number of cases with the strong silver solution, and Goodsall and Miles are partial to this remedy and method where the inner opening is above the internal sphincter. Powell advocates the use of pure carbolic acid instead of silver nitrate. Bodenhamer, however, is quite pleased with his success in the treatment of simple and superficial anal and rectal fistulæ by the use of silver and copper probes. The silver probe may be coated with silver nitrate by holding it in the fused salt, and the copper one may be coated with nitrate of copper by dipping it in nitric acid. The probes are introduced in to the fistulous tract.

Whatever agent may be used, the medicated probe, or some other form of escharotic, it is well to obtain good drainage, and Allingham recommends for this purpose the use of a bone collar button, with a hole drilled through the middle, and the small end of the button inserted into the fistula.

Fissure, or irritable ulcer of the rectum, is one of the most baneful maladies which overtake a patient. The pain is agonizing for hours after defecation, the usually accompanying pruritus is maddening, and there is frequent profound melancholia. The anticipated sufferin, following a movement of the bowels will frequently compel the patient to go for days without an action, when the expulsion of hardened feces intensifies the local condition. Again, the suffering incident to a fecal passage often causes the patient to take some drug before going to stool to blunt the succeeding pain, and thus makes an habitué of himself.

The typic fissure will hurry the patient to the physician's office, where the diagnosis is readily made, a little digital manipulation revealing a narrow slit from one-fourth to three-fourths of an inch in length and one-sixteenth to one-half of an inch in breadth, situated at the muco-cutaneous juncture.

The treatment of fissure, or irritable ulcer of the rectum, is gradual dilitation, curettage, cauterization, divulsion, or excision, and the technique is quite simple. A very satisfactory mehod, after swabbing the fissure with peroxide of hydrogen and soaking it with a pledget of cotton saturated with ten per cent. cocaine, is to sponge it thoroughly with strong silver nitrate solution, which forms a protecting coating of albuminate of silver. Failing in this because of too great sphincteral contraction, the same preparation should be followed by lightly drawing a keen edged bistory through the center of the fissure, and stabbing the fissure in several places. The constitutional condition of the patient should always receive careful attention.

Rectal ulcer is much more extensive, but is usually above the grasp of the sphincters and generally causes but little pain, in some instances none, and is frequently overlooked until the patient is gravely devitalized. Rectal ulcer should always be suspected and the rectum investigated in protracted cases of chronic diarrhœa.

The treatment of rectal ulcer is elaborate and tedious, and fully detailed without contradiction in the literature.

PROSTATECTOMY—ITS INDICATIONS AND TECHNIC.

By William R. Jackson. M. D., of Mobile.
Member of The Medical Association of the State of Alabama.

The vanguard of the surgical world representing the progressive and aggressive surgeons of today are grappling with the heretofore misunderstood and often undiagnosed pathologic conditions, whose exponents can be read in pancreatitis, gastric-ulcer, infected gall-bladder, typhoid perforations, appendicitis, surgical kidney, and senile prostatic hypertrophy. It is to one of the surgical treatments of the last-named condition that I wish to direct your attention for only a few minutes.

Enlargement of the prostate gland, hyperthropic or neoplastic, often produces pathologic conditions that jeopardize the life of the patient and frequently result in death. The real cause of general hypertrophy of the prostate gland is not known.

Prostatic obstruction to the outflow of urine causes a series of very interecsting changes in the genito-urinary tract at and above the point of occlusion. The most conspicuous pathologic states or conditions sequent to prostatic enlargement are:

First. Elongation and increased curvature of the prostatic urethra.

Second. Hypertrophy and fasciculation, dilatation and sacculation of the bladder.

Third. Dilatation of the ureters and pelves of the kidneys.

Fourth. Cystitis (with resulting phosphatic calculi) ascending ureteritis, and pyelonephritis.

Fifth. Sepsis, Uremia, and death.

Catheterization, together with urinary antiseptics (urotropine and cystogen) and bladder irrigation, should constitute the treatment of prostatic enlargement under the following con-

ditions: When catheterization is not very painful; when the patient is intelligent and dexterous with the catheter; when the obstruction is not very great; when cystitis is not very severe; when the residual urine is not very large; when the bladder retains considerable expulsive power. When the palliative treatment fails after a reasonable trial, then operative procedure of some kind should be practiced. Simple drainage of the bladder, supra-pubically, or through the perineum, has failed to give permanent relief to these cases.

It is only quite recently that *complete* removal of the prostate gland has been practiced with any degree of success. The great difficulty in removing the prostate is its inaccessibility. It is more than the finger's length from the perineal or pubic surface, hence digital palpation is quite impossible, without some other aid in elevating or depressing the gland. Prostatectomy, partial or complete, is indicated under the following circumstances: If all the symptoms are growing worse; if the patient is too careless or ignorant to be trusted with a catheter; if obstinate retention of urine occur; if catheterization is painful or impossible; if there be persistent or recurrent cystitis or hematuria; if the residual urine gradually increases in amount; if there are signs of beginning infection of the kidneys. The prime mechanical indication to be met in prostatectomy is to lower or depress the level of the opening from the bladder to the prostatic urethra, which is done by removing the intervening bridge of prostatic tissue; of course, this most often includes all of the prostate and the ejaculatory ducts and part of the bladder walls. There should not be any prostatic pouch left to retain residual urine. Temporary drainage of the bladder after cystotomy (supra-pubic or perineal) should always be used in old and exhausted patients with damaged kidneys, and, complete prostatectomy postponed until the patient's general condition will permit of it.

Some surgeons prefer the supra-pubic, while others choose the perineal route, and others still select the combined route, and remove the gland by the easiest and the most accessible way.

The direction of the prostatic growth often determines the location of the incision and opening in the bladder. If the enlargement is intravesical, the supra-pubic is chosen; if the growth is towards the rectum or urethra, the perineal route is selected. Usually the rectal touch, the urethral sound, and

the use of the cystoscope enable the surgeon to diagnose the position of the enlargement, but the true diagnosis or actual location of the growth is not determined until the bladder is opened from above or below.

It is now conceded that it is always necessary to make perineal drainage in all cases, hence the majority of the best surgeons prefer this route. The claims which make this route the more preferable are: Less hemorrhage and better drainage.

The advantages of the supra-pubic are: Better access to the interior of the bladder; calculi and growth can be seen and removed; encysted stones can be located. Some of the disadvantages are: Damage to the sphincter of the bladder; is very often followed by inability to expel the urine; the ureters may be injured, and subsequently become obstructed by cicatricial contraction. This route is not suitable, if the bladder is markedly contracted, or if the abdominal walls are very thick. Sterility always follows prostatectomy, whichever route is selected, as the ejaculatory ducts are injured or destroyed. The removal of an adenomatous prostate is very easy by enucleation either from above or below, but a fibrous, hyperthrophied, gland is not easy of removal by any means; enucleation being out of the question, morcellation must be practiced with scissors and biting forceps, making it a slow and tedious, as well as a bloody procedure.

The supra-pubic operation is preferred by Bellfield, McGill, Dittel, Guiteras and Fuller, each having his own peculiar and special points in the procedure. All make the vertical abdominal incision and use suture retractors of heavy silk. Some German surgeons make a curvilinear incision in the abdominal wall instead of the vertical. The technic briefly described is:

First. Abdominal incision.

Second. Vesical incision.

Third. Trendelenburg's position.

Fourth. Exploration of the interior of the bladder by finger and light.

Fifth. Incision of the mucous membrane, capsule, and enucleation of the gland.

Sixth. Irrigating and putting in bladder-drains, above and below.

Fuller pushes the gland up by fist in the perineum. Guiteras does the same by fingers in the rectum, while Bellfield makes a perineal incision through which he inserts his fingers and pushes up the prostate to make it more accessible to enucleation.

The perineal route is selected by Nicoll, Bryson, Alexander, Syms, and Zuckerkandl, some of whom make also a suprapubic incision, so that the prostate can be pushed down into the perineal opening.

The steps of this operation are:

First. Longitudinal perineal incision on a vesical staff.

Second. Opening of the membranous urethra, extending incision to the prostate.

Third. Exposing the prostate, opening the capsule with fingers or scissors.

Fourth. Enucleating the gland.

Fifth. Inserting the drainage tube.

Parker Syms uses a rubber bulb on a stiff catheter as a tractor; the bulb is inserted through the perineal incision in a collapsed condition into the bladder, which, after being inserted, is filled with water. Traction on the instrument will bring the prostate nearer the perineal cut and facilitate removal. Zukerkandl, of Vienna, makes an incision parallel to the rectum extending from one tuberosity of the ischium to the other, then a blunt dissection is made with the finger or scissors, separating the rectum from the prostate gland, and, this gland is then clearly exposed by using a large perineal retractor fixed to the operating table. An incision is then made into the membranous urethra, through which he inserts a special metal tractor, which opens and closes like an Otis urethrometer. With this instrument he draws the bladder into the field of operation. The capsule of the gland is next opened and the gland "shelled out" by the finger, care being taken to avoid the median line, lest he aggravate hemorrhage. Even where the gland is very fibrous and tough, he has very little trouble in removing it. He does this operation very often, and certainly very dexterously, claiming a mortality of only seven per cent. in his last series of cases. Last summer I had the pleasure of seeing him do three prostatectomies at Rothschild Hospital, Vienna.

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The importance of regularly and thoroughly emptying the intestinal canal can scarcely be overestimated, since the excrementitious matter thrown off through it, if retained, would inevitably result in the death of the subject. Failure to evacuate the bowel at regular and proper intervals leads to the reabsorption of a large per cent. of the matter prepared by the system

for evacuation; and, as these products are extremely poisonous to the system, their retention and absorption is the active or exciting cause of many diseases. The occurrence of auto-toxæmia at the beginning of or during the progress of any disease aggravates or intensifies that disease. Cleansing the alimentary canal of the products of waste, and keeping it free from such accumulation, is one of the essential steps in the treatment of disease; therefore, any addition to the agents that may be advantageously employed in the accomplishment of this all-important step, should deeply interest all physicians. I wish, in this paper, to call attention to one such agent, not a new one, but one as old as the hills, and one whose action is so well known that I could scarcely say anything new about it. However I hope to call attention anew to some things that are so old that if they have not been forgotten, have at least been allowed to fall into disuse.

In the normal evacuation of the intestinal canal, two principal forces are concerned; namely, secretion, or a moist state of the intestinal contents, and peristalsis; and the one is equally as necessary as the other. Either being absent, evacuation does not occur; either being deficient, the evacuation is correspondingly incomplete. Torpor of intestinal movements, constipation, is almost universally attributed to deficient secretion; and, following out this idea, the remedies employed to overcome it are such as stimulate secretion of the glands which empty their products into the intestinal canal or which bring fluids into the canal by osmosis.

My observation has convinced me that constipation is oftener due to failure of peristalsis than to deficient secretion. I think this is borne out by the fact that a large accumulation of fecal matter is found in the colon in such cases. Much of this matter was secreted, or excreted, and had there been sufficient peristalsis, it would have been evacuated. While it is found in the colon in hard, dry masses, it was not in that state when freshly formed, but only became so after being imprisoned in a torpid colon sufficiently long for the liquids to be absorbed from it.

It appears that many of the influences causing disease in the human system exert a sedative influence on the sympathetic motor centers, thus diminishing the movement of all the structures dependent upon these centers for motor impulses. This blunting impression falls with especial weight upon the intestinal canal, since motor impressions transmitted to it ori-

ginate almost entirely from the motor centers of the sympathetic system. As a consequence, deficient peristalsis, manifesting itself by incomplete alvine dejections, is an early symptom in almost all diseases. This may or may not be accompanied by deficient secretion. If secretion is also deficient, the constipation is more pronounced; but, no matter how abundant the secretion may be, if the sympathetic motor centers are so benumbed as to be insensible to impressions carried to them, the intestinal tube becomes an inactive, motionless mass and effectively imprisons its contents.

The number of agents used in the treament of disease for the purpose of promoting secretion is very great. As a rule, these are also depended upon to excite peristalsis. While the mercurial and vegetable cathartics usually employed to stimulate intestinal movements promote secretion, they do excite peristalsis. But *how* do they do this? It is not by any direct influence they exert on the muscular coats of the intestine, neither do they *directly* stimulate the motor centers, therefore, it must be by reflex action. The bile is probably the normal stimulant of intestinal motion and substances used as cathartics doubtless act in the same way. These substances irritate the terminal filaments of the sympathetic motor nerves distributed in the intestinal mucosa; this irritation is transmitted to the centers and there a motor impulse is generated and reflected to the point from which the irritation came and in this way part of the intestinal tube is set in motion. If the irritant acts on only a small area of the intestine, motor impulses are reflected to a correspondingly small area, but if the action of the irritant effects a more extended area, motor impulses are transmitted to a greater length of the tube.

Peristalsis is excited either by the chemical action of the agent employed; by the irritating qualities of the secretion it induces; or, by mechanical distention of the intestine by hypersecretion. In either case there is irritation of the motor nerves supplying the intestinal mucosa; this impression is transmitted to the spinal centers, a motor impulse is generated and transmitted to the site of the irritation. In order that the entire intestinal canal be effected and general peritalsis excited, it is necessary that the irriation be continued longer, made more intense, or extended to more surface, thus involving a larger number of nerves. The readiness with which general peritalsis can be excited depends upon the condition of the nerve centers, upon

the extent of surface and condition of the part to which the irritant is applied and upon the degree or intensity of the irritation.

If complete paralysis exist, of course no amount of irritation will excite motion. Where paralysis is only partial, or where the centers are benumbed by disease or have their sensitiveness reduced by powerful sedatives, a high degree of irritation is necessary to induce peristalsis and the agents which excite peristalsis by irritation of the terminal nerve filaments are frequently insufficient to excite such action.

In most diseased conditions, peristalsis is very deficient and in some it is entirely suspended for prolonged intervals. In such conditions, if a remedy that greatly increases secretion into the upper part of the intestinal canal be given, this portion of the tube is over-distended before the irritant is distributed over sufficient surface and consequent motor impulse generated to excite peristalsis throughout the entire canal. This over-distention and irritation causes violent contractions of the part of the canal involved; but, as the intestine below is so entirely motionless, a fold or sharp bend obliterates its lumen and completely blocks the downward passage of its contents. The motor centers continue to respond to this irritation, and repeated violent contractions of the tube occur, but, since the contents cannot be propelled downward, they are forced up into the stomach. This is often seen after anesthesia, especially in abdominal sections. In such cases, the centers controlling intestinal motion are brought into a state of intense sedation, if not partial paralysis. This condition frequently continues for several days, with an entire absence of intestinal motion. Most surgeons whose work I have observed, on the day they wish the bowel to act, begin to give a saline cathartic and repeat it at frequent intervals until the desired result is obtained. These saline draughts, by their osmotic action, bring into the stomach, and the first few feet of the intestine below it, a free flow of fluid. This fluid is an irritant to all parts of the mucous membrane, which it reaches, but, as the tube lies in numerous folds, and is so completely inactive, the passage of this matter down the tube is much delayed, and until it is distributed downward to a considerable extent, enough of the surface is not irritated to cause peristalsis throughout the entire length of the tube. Therefore, frequently for hours before general peristalsis is excited to a sufficient degree to secure evacuation of the intes-

tinal contents, there has been such a storm of irritation and consequent motor impulse in the upper part of the intestinal tube as to force the bile and other fluids from the first few feet of the intestine up into the stomach. This, of course, has been attended by severe colic, nausea and other marked discomfort.

In my experience, there are few conditions that make it best to do indirectly what can be done directly. It seems to me to be a rather slow and awkward thing to depend on reflex irritation to induce peristalsis when it can be excited by *direct stimulation of the motor centers.* Intestinal motion excited by irritating substances in the intestine is confined mainly to that portion of the tube containing the irritant and that particular section of the tube is often thrown into violent contractions before the sections below it are stimulated to such a degree of motion as to permit the contents of the bowel to pass downward. Thus we have a local hyper-peristalsis attended by severe griping, colic, retrostalsis and vomiting. These substances chemically irritate the part of the intestine which they first reach; or, if they are not chemical irritants themselves, the secretion they induce proves to be such. The liver and other important glands empty their product into the bowel near the stomach, and when there is deficient peristalsis, this portion of the tube becomes overfilled and highly irritated, and, in fact, is thrown into violent contraction before the irritating substance is distributed down the bowel to a sufficient extent to induce motion of its entire length. The intense colic, vomiting, and other distress which are thus induced have justly prejudiced many persons against the use of purgatives. This ought not to be, and with proper precautions can be avoided. Physiologists teach us that waves of peristaltic motion set in at the pylorous and extend down the entire length of the tube. This is doubtless true in health, since these *waves originate because of the normal activity of the motor centers and are transmitted throughout the entire length of the tube,* but when the motor centers are benumbed by disease, these normal waves cease, or are at least, very much pronounced. In this condition, if it is sought to excite peristalsis by the introduction of irritating substances into the intestinal canal, that part of the canal to which the irritant is applied will first be thrown into motion. The contractions of the tube thus induced urge the irritant downward with greater or less speed; but, as these substances make their impression upon each section of the tube only as they

reach it, and as the motor impulses, called out by this irritation, are reflected to only that part of the tube from which the irritation came, the tube *is not thrown into motion as a whole, or at once*, but section by section, and only as each section receives the motor impulses transmitted to it in response to impressions made by the irritant upon the nerves of that particular section.

What I have said thus far is more as a preface to what I now wish to say about the subject of this paper.

Strychnia is an excitomotor stimulant and exerts its principal effects upon the sympathetic motor centers. Muscular structures dependent upon these centers for motor impulses may be thrown into active motion without effecting the system to such a degree as to bring on contraction of the voluntary muscles. Strychnia has an elective action for the involuntary or unstriped muscular fiber, and, as the muscular coats of the intestine are composed of this class of fibers, the entire length of the intestinal tube may be simultaneously thrown into motion by direct stimulation of the sympathetic centers by this drug. Peristalsis induced in this way corresponds exactly to that of health; that is, it occurs because of the artificially induced *activity of the motor centers;* and motor impulses generated in response to this artificial stimulus are transmitted *in a uniform degree to all the structures that would receive them if the center were acting normally*. The quantity of strychnia required, and the frequency of administration, depends mainly upon the degree of lethargy or insensibility of the motor centers; but when strychnia is administered in sufficient quantities and at proper intervals, active peristalsis can be excited and kept up as long as desired, provided the nerve centers are in condition to respond to any kind of stimulant. If strychnia be administered with the mercurial, or with other agents productive of secretion, each does its part of a necessary work in bringing about the conditions essential for normal evacuation of the bowel. The intestinal canal throughout its entire length is thrown into normal or hyper-normal motion by stimulation of the motor centers by the strychnia. As soon as the secretion producing agent begins to pour its product into the canal, this secretion and the other intestinal contents are gently and gradually, but certainly, propelled downward. *There is no over-distention of the bowel at any point, consequently no violent contractions, no retrostalsis, vomiting or other distress.* In

other words, the conditions essential to normal evacuation of the bowel have been in reality artificially induced, and no more distress or even discomfort accompanies the act than if no artificial means had been used in its induction. The dose of strychnia for this purpose varies from ⅛ to 1-30 of a grain, given at intervals of two to three hours until four to six such doses are given. The susceptibility of different individuals to strychnia varies considerably, but this can be estimated before administration with a fair degree of accuracy. The body weight, age, height, the tonicity or flabbiness of the tissues, as well as the degree of torpor or insensibility of the motor centers are the points to be considered. If, say, 1-20 of a grain is estimated to be a proper dose for a person weighing 130 pounds, this amount should be increased or decreased in proportion to the increase or decrease in weight. Young persons are more susceptible to its action than old ones; short, compactly built persons are also more susceptible than the tall, loosely built. The tonicity or lack of tone of the tissues is an important determining factor. Persons who have lost weight and whose tissues are flabby and relaxed, require much more than those whose tissues are in fair state of tone.

The condition of the sympathetic motor centers cannot be estimated as accurately as the other influencing conditions, but experience leads to a fair degree of accuracy in this also. Persons whose nervous systems are profoundly impressed with any depressed motor toxic substance require larger doses than those not thus impressed.

A good example of these may be seen in persons impressed with morphine, either temporarily or habitually. The value of strychnia in obtaining alvine dejections in the latter can hardly be over-estimated, and its proper employment in such cases will greatly reduce the mortality of this class of patients from other diseases. All authorities agree that the habitual use of narcotics greatly increases the liability of death from any acute disease with which those addicted to their use may be attacked, and it is generally conceded that when that disease is pneumonia, typhoid fever or dysentery, the case is well nigh hopeless. This is mainly due to the great difficulty experienced in securing efficient elimination through the intestinal canal. Few remedies act with any degree of efficiency when the system is impressed with opiates, and, as these cannot be dispensed with in persons habituated to their use, the physician is almost entirely

disarmed. By the administration of strychnia in sufficient doses, this difficulty may be largely, if not entirely, overcome, and the bowel may be made to act as promptly and efficiently as if the opiate were not being used. In this way active elimination can be secured and the chance of recovery in such cases greatly improved. Strychnia has the power to stimulate peristalsis, notwithstanding the opposing action of opiates, and as the absence of peristalsis is the chief obstacle to action of the bowel, strychnia furnishes the key to success in such cases.

When it is sought to move the bowel after anesthesia, if a full dose of strychnia is given one hour before the usual saline, peristalsis is thereby excited and the saline acts more promptly and with very much less distress. It will rarely be found necessary to repeat the dose of either; but, should the case require the repetition of the saline, the strychnia should also be repeated. In fact, it would be a boon to humanity if it were observed as a general rule to administer strychnia in connection with all agents where intestinal evacuation is the object sought.

In the ordinary bilious conditions, where a mercurial or vegetable cathartic is prepared to be given in, say, four doses at intervals of two to three hours, the addition of 1-20 of a grain of strychnia to each dose is about the correct quantity for an average adult, and I feel sure that any physician who will try it a few times and observe the results will continue its use as a rule in practice. To obtain the best results, purgatives containing strychnia should be taken upon an empty stomach.

In the country districts or where physicians are in the habit of carrying their medicines with them, a convenient form in which to carry strychnia is in a powder made by trituration of one part of strychnia to nineteen parts of sugar of milk, thus making one grain of the powder represent one-twentieth of a grain of strychnia. In this form it can be measured by sight with sufficient accuracy to be safely given, and this overcomes the objection that the drug is too concentrated to be handled except where accurate means of dispensing are at hand. Tablet triturates or granules of almost any strength may also be obtained for stomach administration. For hyperdermic use, of course, the accurately made tablets are most desirable.

ACUTE MILK INFECTION.

By Bernard Philips, M. D., of Dothan.

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There are but few diseases in the entire catalogue of human ailments which tax the ingenuity of the physician so much, and arouse the anxiety of the family so quickly, as Cholera Infantum; for it may take but a few hours for a robust, plump, and vigorous child to become a miserable victim, with pinched features, flabby skin, sunken eyes, and showing every sign of hurried depression, and rapid emaciation.

In fact, so quick is the transformation, that it is impossible to differentiate this disease from Asiatic Cholera, when the latter is epidemic, save by microscopical recognition of the bacillus comma.

Acute milk infection is not an uncommon complaint in the South, and it is of vital importance for every physician to know something of it, and to make a special study of its prevention. Scientific research has not been able to isolate a bacterium for this affection, and at present many authorities attribute it to an increase in the number of bacteria coli communis, and bacteria lactis ærogenes; or their ptomains, dependent on the fermentation of milk occurring during the summer months.

Other authors bslieve it is the result of the action of a germ that is found in impure milk, and that the development of this microbe is due to the increased temperature; for we find this disease more prevalent among babies fed on artificial foods containing milk, and whose domestic environment subject them to the worst of hygiene; so we cannot yet decide whether this germ finds its habitat in the intestines, or is introduced from without.

The bulk of opinion, however, sways to the latter theory. An autopsy on a victim of acute milk infection shows the result of a great vaso-motor disturbance, as a consequence of the circulating ptomains poisoning the nerve centers. Because of

this loss of contol of the blood vessels, we find hypostatic congestion at the base of the lungs, and minute hemorrhages scattered throughout the lungs and heart. The entire intestinal mucosa is congested, but the congestion is most marked in the glands of the mucous membrane of the cœcum and colon.

In nature's effort to encompass the poisonous organisms, a host of leucocytes are dispatched to the inflamed intestines, and so thoroughly are the capillaries distended that the circulation is impaired, and softening and necrosis results, producing ulcers.

It is hardly necessary to enumerate the symptoms, for they are familiar to each of you.

The preliminary diarrhœa only shows that the milk is not agreeing with the child and should put us on our guard.

The sudden onset with violent and peristent vomiting, and purging, and with the accompanying depression and rapid loss of weight, makes us suspicious of cholera infantum. Although the stomach has emptied itself, yet nausea and vomiting continue, while the diarhœa, which only a few hours before, was merely the expulsion of the contents of the intestines, now becomes green and spinach-like and finally rice water in character; when such a picture presents itself, the diagnosis of cholera infantum is unmistakable.

We must remember that the temperature may be either elevated or below normal.

The clammy skin and cold surface may lead us to the belief that the temperature is sub-normal, but the thermometer will usually find the rectal temperature high.

Because of the vaso-motor disturbance in the intestines, exosmosis becomes so great that the liquor sanguinis seems to pour through the intestinal glands, and the distressing thirst is merely a cry of the tissues for water.

The kidneys are generally very inactive, and there may be suppression of urine for twenty-four hours or longer, but the bowels are carrying away those elements of the blood which are usually converted into urine, and nephritis is a rare complication.

In patients that recover, we soon see that the stomach is becoming quiet, vomiting less frequent, and the stools diminish in number; the depression lessens; the general appearance improves and the child generally returns to the normal.

We should give an unfavorable prognosis in those children who soon become comatose, and with hyperperexia accompanying the collapse.

Because of the short duration of the attack and the high mortality of cholera infantum, the treatment should be largely prophylactic; and it is this portion of my paper which I would like to especially emphasize.

When it is recalled that a very small number of children fed on breast milk are subjects of this disease, we naturally look into the methods of artificial feeding for the cause of this trouble.

From what we have learned of its etiology, shall we regulate the chemical composition of milk, or destroy the bacteria, as a means of prevention?

Untiring efforts have been made to find a food which would take the place of mother's milk; and all of its chemical constituents have been put together in the same proportions in which they are found in milk; but these experiments have taught us that milk, made synthetically, will sustain the life of an infant, only for a short period; and it has been demonstrated that it lacks that intangible constituent or ferment, which must come from the lactiferous ducts, and which has control of the equilibrium of protoplasm.

So it is a well established fact that, although we may exactly simulate the chemical composition in proteids, fats, carbohydrates, etc., of mother's milk, yet it will lack the peculiar adaptation to the infant. And more than this, it does not contain those fermentative bacteria which are so essential to digestion. But I believe that it is a bacterium in milk that we must attack as the cause of this disease.

In our efforts to sterilize milk we cannot usually succeed from a bacteriological point of view; but we do not wish to do this, for there are certain bacteria, as I have just said, which aid in the digestion of milk.

For all necessary purposes we can destroy those germs which we most fear, and experience goes to prove that cholera infantum is comparatively rare in children whose hygienic surroundings are good and to whom milk is given with proper precautions.

Boiling milk has both its advantages and its disadvantages; for when milk is heated to 212 degrees Fahrenheit it changes its taste and is frequently objectionable to the child. While in

those children that acquire a fondness for it, we find soft, flabby muscles, poor and irregular development, and we often encounter scurvy and rickets.

Holt says that pasteurizing milk, which brings it to a temperature of 167 degrees Fahrenheit is satisfactory.

Milk exposed to this degree of heat for twenty minutes is practically safe; for 167 degrees Fahrenheit will destroy the bacilli of typhoid, diphtheria, tuberculosis and some of the pyogenic germs. It does not change the taste of milk, nor does it make it less adapted to the child's stomach.

Lack of knowledge, or carelessness in the cleansing of the bottle and appendages used in the feeding of milk, is a frequent cause of this dreaded disease.

When food is given by this method we cannot be too emphatic in impressing our patients with the importance of thoroughly boiling or scalding the bottle, nipple, and tube, after each feeding.

There exists a custom in many of our rural districts, of feeding suckling infants solid food which has been masticated by the mother or nurse; and it is my observation that children that were subjected to such unwholesome and disgusting practice frequently became the subjects of cholera infantum.

The solid food combined with the bacteria of the adult mouth will certainly act as predisposing factors of acute milk infection; and such a method of feeding infants should be emphatically condemned by the medical profession.

In treating an attack of cholera infantum, remember that we are dealing wth an infection, and that milk has been the mode of conveyance, so it behooves us to withdraw milk in every form.

Even pasteurization or sterilization does not render milk a safe food in this dangerous affection.

As nourishment in any form is likely to be expelled at once, thus aggravating the depression rather than giving strength to the patient, it would, consequently, be imprudent to give any food during the first eighteen or twenty-four hours.

A dose of castor oil is occasionally retained, and if so, it acts as well by removing the poisonous contents of the bowels, but should only be given at the very onset of an attack, and should be sterilized before given.

Calomel, in small doses (say 1-32 to 1-16 of a grain) given every fifteen to thirty minutes, until one or two grains are

taken, will act most beneficially by increasing the flow of bile in the intestines; bile being an intestinal antiseptic, promotes intestinal catharsis; but calomel, however, should always be given at the very onset of an attack.

Stomach lavage and high rectal injections hasten the expulsion of the contents of the stomach and bowels, and is a deservingly proper method of treatment.

The normal salt injections are best, for they not only hasten the evacuation of the poisonous materials, but a quantity of it is absorbed, thus supplying the blood and tissues with more water. This has proved a most worthy stimulant in the profoundly depressed conditions usually met with in this trouble.

These mechanical methods should also be used early in the attack, and continued at frequent intervals until all vomiting and purging cease.

For the nausea and collapse, a hypodermic of morphia 1-100 of a grain combined with atropia 1-800 of a grain, has given the best results in my experience.

I have also found that hot mustard baths are most efficacious in stimulating the cutaneous circulation, thereby relieving the cold, clammy surface and lessening shock.

Hypodermoclysis has saved the lives of many children when in this collapsed condition.

In cases where the shock is profound and lasting, I would advise hypodermic injections of brandy, which should be repeated at intervals until the patient reacts.

As soon as the stomach will retain nourishment, begin feeding with small amounts of albumen water, or beef extract; this should be cautiously increased as symptoms abate.

All water used in feeding the patient should be boiled at least twenty minutes, thus securing thorough sterilization.

Do not allow the child to be fed with milk in any form for several days, and then demand rigid asepsis in its preparation when it is given.

Advise that the child have the benefit of fresh air and sunlight.

I may not have brought any new theory to you; nor advocated any treatment that is not familiar to you; but the object of my paper has been to bring afresh to your minds the vital importance of cleanliness, as a prophylaxis in a disease which cuts short the lives of thousands of infants each summer.

References: Holt, and Taylor & Wells.

TREATMENT OF PUERPERAL SEPTICÆMIA.

By Joseph T. Coulbourne, M. D., of Birmingham.
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The treatment of this dread disease is above all things preventive. It should never occur. The infection is always from without and gains access to the body either through the blood vessels, or lymph channels, or both, at the site of some abraded surface or tear, most frequently at the placental site. When obstetricians are thoroughly convinced that puerperal septicæmia is purely a surgical disease and learn to treat it accordingly, always carrying out the best scientific methods to prevent wound infection, then, and not until then, will they have made a long stride towards the goal of perfection in the obstetrical art; and they will have robbed motherhood of its gravest terrors. During the last ten days of pregnancy the diet should be plain, simple and nutritious, and the bowels kept open by means of a saline, augmented frequently with an enema of salt and water. As a saline cathartic, and one which comes nearer meeting all requirements, the old mixture of epsom salts and cream of tartar, two parts of the former to one of the latter, is the best. Prophylactic measures, properly carried out in detail, are our sheet-anchors of safety in the treatment and prevention of this dread disease. Keep the lying-in chamber sweet and clean; it should be well ventilated and well scrubbed. It should be the best room in the house, and the one least used as a living or bed-room,—if possible it should be a spare-room, kept well prepared beforehand. Should a gynecologist have a section to do, he would choose such a room, even though in our modest homes it were the parlor, made ready for the occasion. All needless and useless furniture should be removed. The bed should be scrupulously clean, all linen and cover direct from the laundry, if possible. The bed proper should never be of feathers, if it can be avoided. A nice mattress is preferable; even though it should be somewhat soiled, yet if it is first covered with an ordinary oilcloth, such

as our good wives use for covering furniture, and on this a clean sheet, both pinned to the corners of the mattress, you will have a bed that will meet all requirements. This oilcloth is cheap, and hence should always be new for the occasion. On this place a draw-sheet and a square of oilcloth about 4x4, the center of which should correspond with the position of the hips on the bed. On this later you will place the absorbent pad, preferably made of cheesecloth, well padded with absorbent cotton, or an ordinary folded comfort, provided it is surgically clean. The patient's night-dress should be carefully folded back over the shoulders, and a sheet, folded once each way, pinned around the waist and open in front; this latter arrangement permits of an easy examination and also serves to keep the parts clean. Having followed this plan of arrangement, it is so easy after delivery to withdraw from below the drawsheet and all soiled pads with the least possible discomfort to the patient, leaving her bed clean and free from soiled discharges. Of course other absorbent pads and clean napkins should be ready to receive the lochia, which should be changed at frequent intervals. The first sheet of oilcloth and sheet remaining not only protects the mattress from an excessive lochial discharge, but prevents the progress of infection from below up. The preparation of the patient is very simple, yet of the utomts importance. The bowels should be moved thoroughly with an enema of salt and warm water. The patient should be given a warm bath with soap and water, and the vulva and rectal outlet, and parts adjacent thereto, should be thoroughly cleansed with soap and water, after which these parts should be carefully sponged with a solution of corrosive sublimate, or a five per cent. solution of carbolic acid, paying especial attention to the margins of the vulva and rectal opening. It is generally unnecessary to administer a vaginal douche, unless there is some vaginal or uterine disease. This done, the patient is placed in bed and is ready for the occasion. It is needless to say that the attendants should always observe the strictest rules of antiseptic surgery. All instruments should be thoroughly boiled and sterilized. The hands of the attendants should be scrubbed and soaked in a 1 to 1,000 solution of corrosive sublimate. Above all things, the fewest possible intra-vaginal examinations compatible with good management of the case should be made. The attendant should wear a clean surgeon's apron, with sleeves. It is essential to cleanli-

ness and gives tone to the operator. Under no conditions should he go direct from an acute infectious disease, such as scarlet fever, diphtheria, erysipelas, etc., to the bedside of a lying-in patient. After delivery of the child all secundines should be carefully removed, and, if lacerations occur, they should be stitched up at once under the strictest antiseptic rules. These rules observed in detail and you will have but few cases of puerperal septicæmia to treat. As in surgery, so in obstretrics, "An ounce of prevention is worth a pound of cure." Should infection occur it should be recognized at once and treated heroically from the start, our chief aim being to prevent further absorption, and to promote complete removal of all infecting material. Just here it is necessary to say that all infection is classed under two heads; first, putrid or sapræmic, due to the absorption of ptomines, produced by the action of bacteria on dead tissues; second, true streptococcus infection, attacking the living tissues direct, or both occur jointly. As previously stated, these agents are from without, and must first gain access to the body either through some abraded surface, or at the placental site. Should the infection be sapræmic in character, which in a majority of the cases is first the case, it is always due to the retention of dead matter, viz., portions of the mebranes, or placenta, or blood clots. This retention, in a very great number of cases, is due to a partial closure of the uterine canal, caused by a retroflexed uterus. You can readily see how this is more liable to occur at this time. The uterus is flaccid, heavy, and unsupported, and were it not that nature continually causes the expulsion of all retained matters by repeated uterine contractions, infection would occur oftener. The treatment naturally suggests itself. What would the surgeon do under similar conditions? If a suppurating focus existed, such as an abscess, he would open and drain at once. We simply do likewise. First, cleanse the vulva and vagina thoroughly with antiseptic douches, dilate the cervix, if not already sufficiently dilated, and douche out the uterine cavity thoroughly with a hot antiseptic douche of corrosive sublimate, 1 to 2,000. Swab it out thoroughly with absorbent cotton and an ordinary pair of dressing forceps. Use the blunt curette, if necessary, to remove all dead tissue; but never make new abrasions, if you can prevent it. Leave the uterine cavity thoroughly clean, and above all things well drained. I contend that this is best done by the little instrument I will now show you. Notice figures 1 and 2.

FIG. 1

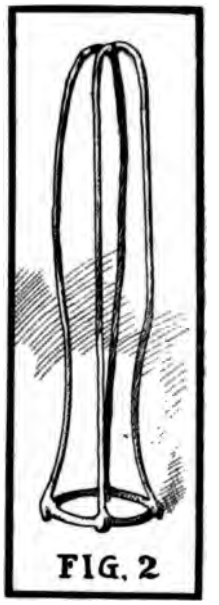

FIG. 2

It is made of steel wire, cone-shaped, somewhat smaller in diameter at the lower third, and about three inches long. When introduced in the uterus it is easily retained, the constricted diameter corresponding with the internal os. With it in position the uterine walls are held apart on all sides, leaving an unobstructed outlet from the fundus to the cervix, through which the lochia and *debris* have an easy passage. It moreover strengthens the canal of the uterus. The uterus can also be douched through this wire drain as often as necessary.

I contend that this is superior to a gauze drain, in that, it being open, not only the fluids but small particles of *debris* can pass easily. Gauze does not straighten the canal; moreover, if packed too hard, will not drain the fluid, and never does permit of the passage of infected particles. The main object of all our treatment in sapræmic infection is, first, a complete removal of all dead tissues; second, a thorough drainage of the parts, augmented by frequent antiseptic intra-vaginal and uterine douches. By this means every particle of diseased tissue and *debris* will be immediately and continually drained and washed away. The moment there is a rise of temperature the treatment should be inaugurated. In the streptococcus infec-

tion we have a more serious trouble to contend with. In this condition the cause is due to the invasion of the tissues by the streptococcus germ. This infection most often accompanies the sapræmic, indeed, they go hand in hand. In the sapræmic infection the bacteria only invade dead tissues, whereas, in the other, the streptococcus attacks the living tissues. It can do this more effectually, however, because it multiplies very rapidly along with bacteria in decomposed dead tissues. The only barrier to a general infection at all times in such cases is an army of living cells, the phagocytes, lined up in battle array, to prevent the ingress of the streptococcus germs. You can readily see that our treatment is identically the same, with this difference, however, that the living tissues are invaded, and it is very difficult to destroy the invading germs without impairing the line of defense of the living. This is why we condemn the sharp curette. The best aid we can render nature here is to effectually attack her foe in the rear, allowing her to attend the front line. This is best done as previously stated above. When the infection is uterine the blunt curette should be used more effectually, and the parts frequently and thoroughly douched with stronger antiseptic solutions. The continual drain and frequent antiseptic douche is the sheet-anchor of safety. In severe cases there is no objection to injecting direct into the uterus itself hydrogen dioxide diluted one-half. With the wire-drain tube in place there is no danger of forcing matters into the Fallopian tubes since they have an easy exist below. This is a most efficient way of thoroughly cleansing the uterine cavity, used conjointly with antiseptic douches. When the infection is at the cervix, or below, and due to tears, etc., all such ulcerated surfaces should be thoroughly cleansed in like manner. All diphtheritic patches should be brushed over with a strong solution of nitrate of silver. In such cases, after a thorough cleansing of the parts, I invariably leave a folded strip of iodoform gauze, the entire length of the vagina, which acts as a drain, and also keeps the parts from contact. When the perineum has been stitched up and has become infected it is best to remove the sutures and treat as an open wound. I believe the fault of most of us in the treatment of these cases is the half-hearted way in which we treat them. It should be thorough from the start, and frequent douches at least three times daily. Constitutional treatment should be supporting from the start. Highly nutritious foods in the most concen-

trated and digestible forms, should be given, and they should be augmented by general tonics and heart-stimulants, as the occasion demands. As agents for the control of high temperatures cold and quinia act best. With this line of treatment, properly persisted in, our mortality will be greatly decreased and one of the greatest causes of invalidism to mothers will be removed. All complications should as they arise be treated.

THE TREATMENT OF FRACTURED PATELLA, WITH REMARKS ON THE OPERATIVE TREATMENT OF FRACTURES IN GENERAL.

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Accurate coaptation of the fragments is an essential factor in the treatment of every case of fracture. It is especially important in the case of the fractured patella, since this bone has no marrow, and is covered by periosteum on one side only, and is, therefore, deficient in the function of callus-formation. Moreover, in this particular fracture, coaptation is more than usually difficult, owing to certain anatomical peculiarities, and cannot be obtained by the ordinary fracture-dressings. The chief obstacle is the torn aponeurotic tissue overlying the patella, which curls over the fractured surfaces and prevents apposition of the fragments. Another difficulty is the powerful contraction of the quadriceps muscle, which draws the upper fragment away from the lower. The attempt which is frequently made to overcome this difficulty by drawing the fragments together with strips of adhesive plaster, defeats its own purpose, as they cause the fragments to tilt so that only their edges are in contact, at best. Still another factor interfering with coaptation is distention of the joint by effusion.

Unless these obstacles are overcome, and accurate coaptation of the fragments secured, non-union will be the result, with

separation of the fragments. The resulting space is bridged over by fibrous tissue, which necessarily becomes a part of the quadriceps tendon, whose length is thereby increased to an abnormal extent. This "splicing" of the quadriceps tendon results in impairment of function of the affected limbs, and, as will be presently shown, atrophy of the quadriceps muscle. This muscular atrophy is commonly ascribed to the prolonged non-use rendered necessary by the treatment, but this explanation is hardly consistent with the facts. A certain amount of atrophy does follow non-use in every instance, but it exists only temporarily in cases where bony union is obtained; whereas, it is permanent in the cases of fibrous-union with separation of the fragments. The probable explanation is suggested by the fact that the degree of muscular atrophy is proportionate to the extent of separation of the fragments. The abnormal length of the tendon causes relaxation and loss of tone of the muscle itself, and atrophy necessarily follows. The greater the separation of the fragments, the greater will be the muscular relaxation, and accordingly, the more pronounced will be the resulting atrophy. It is thus seen that fibrous union is unsatisfactory on account of the loss of symmetry, even though the functional result may be good.

On account of the deficient reparative power of the patella, due to the structural peculiarities mentioned above, it is evident that bony union is not likely to occur if coaptation is faulty, and perfect coaptation cannot be secured by external appliances alone. The fragments can, however, be secured in accurate contact by means of an open operation, resulting in bony union in almost every instance, as proven by experience. Operative treatment of this fracture is, therefore, to be preferred, except in the presence of contra-indications and in unfavorable surroundings.

Various operative measures have been employed from time to time, but all have practically been abandoned, except the methods of suturing the fragments by an open operation. The various methods of subcutaneous suture, once in considerable favor, are not to be relied upon, as they can hardly be expected to overcome the obstacle to coaptation offered by the torn aponeurotic tissue.

Some operators merely cut down on the fragments, remove intervening tissues and clots, and suture the soft tissues adjacent to the line of fracture. Others seek to fix the fragments in

apposition by means of a suture passed over the front of the fragments, from the quadriceps tendon above to the patellar tendon below.

The objection to these methods is the imperfect fixation of the fragments, which easily become displaced, thereby compromising the chances of obtaining bony union. The method which fulfills the indications most completely and gives the most constant results, is the actual suture of the fragments themselves by means of silver wire. The operation is performed as follows: After the usual preparation of the field of operation, a free transverse incision is made over the line of fracture. This incision necessarily opens the knee-joint, which is then flushed out and the clots which are usually found adhering to the fractured surfaces are removed. Drainage of the joint is now provided for, and I would recommend its use in every operation of this kind. Some operators drain through the lower angle of the incision, but this is unsatisfactory, as it interferes with the healing process, and adds to the risk of infection. This objection can be overcome by employing tube draiage through a small incision into the upper and outer part of the synovial sac under the quadriceps tendon. This is well away from the field of operation, does not interfere with healing of the wound, and when the leg is elevated it becomes the most dependent point available for drainage. It can be removed in twenty-four or forty-eight hours without disturbing the dressings.

Having made provision for drainage, a drill is made to enter on the anterior surface of each fragment at a point about ⅜ inch from the fracture-margin, and emerges on the fractured surface close to the edge of the articular cartilage lining the posterior surface of the fragment.

It is advisable to have the direction of the drill holes such as to form a right angle with each other, if possible, when the fragments are in contact, and to emerge close to the articular surfaces, so that when the wire is inserted and twisted, it will serve the purpose of a deep bone suture, and avoid possible tilting of the fragments. For suture material, I would recommend a smaller size of silver wire than it is customary to use. A No. 23 or 24 wire, while not so strong as the larger sizes, will hold the fragments together sufficiently well, and has the advantage of being more easily buried by the callus formed during the process of repair. This consideration is of importance in view of the fact that the wire has been known to cause ulceration of

the skin from pressure. The fragments having been adjusted, the wire is twisted and the ends are cut off and bent down so as to lie in the sulcus between the united fragments, where they are almost certain to be buried by callus.

In case there are three fragments to be brought together, as frequently happens after direct violence, the prevailing practice has been to unite the fragments by means of three separate wires, insertd so as to hold each fragment in contact with both its fellows. This necessitates the trouble of drilling each fragment twice, and involves considerable loss of time. To avoid this unnecessary trouble and delay, I make use of a mattress suture, so that only the largest fragment is drilled twice, the other two being drilled once only. This silver-wire mattress suture approximates the fragments nicely, unites each one to both the others, and leaves only one twisted end to be disposed of, instead of three.

The operation is completed by suturing the torn aponeurotic tissues with catgut, and closing the skin, after which the dressing is applied and the limb put up in plaster of Paris. The patient is put to bed with the limb elevated, in order to encourage drainage.

The after-treatment consists in applying passive motion to the patella alone at the end of three weeks, moving it gently from side to side to prevent adhesions to its articular surface. This can be done without fear of disturbing the relations of the fragments to each other. After four weeks, passive motion is applied to the leg, and the patient can get about on crutches, provided that movement of the patella is guarded against. After six or seven weeks, if the patient is young, he may be allowed to use the limb without any support whatever. Older subjects require a somewhat longer convalescence.

The question of operative treatment of simple fractures of long bones may be said to be still in its infancy, and I shall, therefore, confine myself to a brief consideration of its main aspects only. In the preceding section, operative treatment of fractured patella was recommended in every case except for special reasons. In fractures of long bones, on the contrary, it should only be employed in selected cases, and for special reasons. One would naturally hesitate before converting a simple into a compound fracture, unless convinced that such a course is essential to the welfare of the patient. There are cases, however, where it is apparent that undue deformity or loss of func-

tion is bound to occur if the usual treatment is carried out. In such cases the attendant is apt to content himself with giving a bad prognosis and doing nothing, when, as a matter of fact, a bad prognosis is in itself a very reliable indication for operative treatment. In other words, a bad prognosis in a case of simple fracture usually means that the case belongs in the domain of operative surgery. In some instances, preservation of function may be of vital importance to the individual, as, for example, in fractures of the forearm. In case both the ulna and radius are broken at the same level, it is frequently very difficult to maintain the fragments in apposition, and there is great liability to cross-union, or deformity, resulting in serious disability. In such cases it is proper to cut down and wire the fragments of one bone, which then acts as a splint, and renders the reduction of its fellow comparatively easy.

Fractures of both bones of the leg at the same level is also extremely difficult to manage at times. Such cases can be successfully managed in the same manner as in the case of the forearm; that is, by fixation of the fragments of one bone and treating the other by the usual methods.

In some cases of fracture of the clavicle, reduction cannot be maintained sufficiently to prevent undue deformity, which may be particularly undesirable in girls, becoming a possible source of embarrassment to them in after years. In these cases, a small incision will suffice for wiring the fragments, and the resulting scar will be far less unsightly than any considerable deformity would be.

In the case of un-united fracture of the neck of the femur, a method of direct fixation of the fragments has been employed successfully a few times, but has not become popular owing to the difficulty of its execution. An incision is made into the hip joint, and the fragments exposed, and their surfaces freshened. A drill is then made to enter the outer surface of the great trochanter, and directed through the neck of the femur, and into the inner fragment. Through the canal thus formed, a nail or ivory peg is driven, fixing the fragments in apposition. This method has given good results in the hands of a few operators, and at least holds out the possibility of relief for a condition which is otherwise hopeless.

In fracture of the olecranon process of the ulna operative treatment is preferable for all cases, as otherwise fibrous union or partial ankylosis of the joint is apt to occur. The fragments

are drilled, and a small silver wire or kangaroo tendon suture inserted, and the wound closed without drainage.

In the treatment of fracture of the lower jaw, I have, for several years, been using a very simple but efficient method of fixation, which has given uniformly good results. The method consists in passing a small silver wire through an inter-dental space on one side of the fracture, then out through the corresponding space on the other side. The fragments are adjusted, and the wire drawn tight and twisted. A second wire is then passed around this loop at right angles to it, and lying in the space corresponding to the seat of fracture, the object being to have the first loop of wire embraced by the second.

When this second wire is drawn tight and twisted, the result will be to fix the fragments so firmly that no bandage or other appliance need be worn at all. The twisted ends of the two loops are bent down against the teeth in opposite directions, and give no trouble. The wires may be removed in four weeks.

Bone suture, or direct fixation of the fragments, by other means, is indicated in cases of delayed union where other measures have failed. Here it serves the double purpose of fixation of the fragments and of stimulating callus formation.

DISCUSSION.

Dr. Coulbourne: "I waited hoping that some one else would discuss this paper. I hate to see a paper of so much importance go by without some criticism, because a discussion of a paper of this kind is what brings out the information and tends to do good. There are two great principles in surgery which we should never forget. They are, first, to konw *how* to operate; and secondly, to know *when* to operate. If a man will take those principles and do unto others as he would have others do unto him, he will always come out right in the end. Now, the operation on the knee joint, gentlemen, is not a minor operation, as the worthy doctor has told you; indeed, it is one of the most serious operations with which we have to deal. Unless done under strict antiseptic rule, and unless strictly preserved throughout, you may have infection of the joint, and endanger not only the limb of the patient, but his life as well. Now, taking these things into consideration, if you can avoid operating with equally as good results to the patient, it seems to me that

we ought to give him the benefit of the doubt. I agree with the doctor in many respects, and if we establish a rule to operate on all fractures of the patella, many of us will operate on the patella and lose our patients. We should always try to give the patient a useful leg, and I therefore think we should lean in that direction. So much for the operation. The next thing is the manner of operating. The doctor has told you how to do it, and do it correctly, and I have only one suggestion, and that is in reference to the sutures. The silver wire is used universally throughout the country; silver wire is no better, and not as good even, as good steel wire; in tissues it does not act as well as good steel wire. On the contrary, if you insert steel wire into a man's flesh, it will be preserved better than a piece of silver, because we know that silver in tissues combines with the tissues and generates and produces a certain kind of deposit; whereas, with steel, the salts in the blood tend to protect and to prevent this condition, and iron sutures, gentlemen, are three times as strong as silver sutures. So much for fracture of the patella. In reference to converting a simple fracture into a compound fracture, I do not think this should be done. I do not think it is justifiable, under those conditions, to subject the patient to an operation because it would certainly bring about an increase of danger by converting a simple into a compound fracture. When you have these conditions, if you will put up the limb in a proper splint and take it down in a suitable time thereafter, and use passive motion, you get as much uniformity as you can by operating and wiring the parts together."

Dr. Harper: "I regard this as one of the most important papers that has been presented to this Association. There is nothing more bitter to a doctor than to have two or three patients going around his community with a stiff arm or a crippled leg; everybody asks who was the doctor that attended them. In regard to this matter of fracture of the patella, there is one point I would like to bring out, which, I believe, the doctor does not insist upon, and that is, that the operation about the joint is likely to be followed by suppuration of the joint, and loss, not only of the leg, but of the patient's life. The practice which I believe is universal, is that of Dr. Myer, of New York, who does not operate on his patients until at least one week after the receipt of the injury, allowing the inflammation to subside. He then operates, and claims to have the most happy results. As to fractures of long bones, all know that there is

a class of fractures in long bones which you cannot keep in place by any other method than the open operation. Take, for instance, an oblique fracture of the tibia; here you have an overriding of these bones; you may pull them straight and put them up in splints, and you will still find overriding of the fragments, and you will always have to do the open operation. I understood Dr. Coulbourne to say that it is useless to wire those bones; now, that has been my experience, and I find that the bones slip by each other, and I have accomplished nothing more than if I had not operated. The method I have used is the one that was put in practice by Dr. Nicholas Senn. Take the wire from a broom-stick—I remember a circus-man who had fallen off of a wagon and broken his leg; he had a compound fracture; I did the open operation, and wired the bones together. Without my knowledge or approval, he left the hospital, I believe, the next day, and went down town, and left for Michigan, and the doctors write me that his leg was still in position. But the method I like equally as well is one by Dr. Robert Morris, of New York. He uses two silver pegs, bores a hole in one end of the fractured bone and a groove in the other end. Wrap your wire around, or use the silver pegs, and drive it in the end of one bone and make a groove in the other one, drive your peg down in the groove, and you have it. It is not necessary to have silver wire. Cut some wire off of a broom stick, and a year after you can see that patient well with the wires that you got off of a broom stick. You need not have a hospital; you can do it in the country."

Dr. Jackson: "I am glad to have heard this paper because it deals with advanced surgery. Formerly, surgeons were content to get any kind of union of the fractured potella; it was always ligamentous and resulted in a weak or crippled limb the rest of the patient's life, due to the ligamentous union and to atrophy of the quadriceps entensor femoris muscle. Progressive surgeons of today, in America, as well as abroad, always operate upon fractured patellae, and obtain perfect results—rarely, indeed, is the result disastrous. The pathology of fracture of the patella can be summed up as follows: (1). Separation of the broken fragments; (2). prolapse of the aponeurotic tissue and periosteum between the fragments; (3). hemorrhage with resulting clot at the point of fracture, and often into the joint.

The main indication in the treatment would be the removal of the mechanical barriers to a long bony union; viz: prolapsed fibrous aponeurotic tissue and clots. Co-apting the broken fragments could be easily done by chromic gut, and most of our best surgeons merely suture the periosteum and do not use silver wire; nor do they drill the bone. Maintenance of co-aptation is best done either by the plaster of paris bandage or by the long posterior splint. Should there be faulty technic, sepsis (local) might result in suppuration and destruction of the joint, or possibly in the loss of the limb and life of the patient, should the sepsis become general. Simple synovitis without pus could cause fibrous ankylosis and a crippled limb.

Open treatment of simple fractures of long bones is not warmly advocated by many of our best surgeons. But since X-ray views of most simple fractures depict such deformities to the surgeon, he is tempted often to cut down and wire the broken fragments together. Such procedures, however, have not resulted in any better success than the old plan of treatment,—disaster sometimes following. Most operators prefer to wait five days after the fracture before operating, for the reason that capillary oozing from the broken surfaces of the bone usually keeps up for that length of time; at the end of which time, handling of the bone will not so easily displace nature's hemostatic efforts—(minute thrombi in mouths of lacerated vessels.) A few operators proceed immediately after the fracture to unite the broken fragments, but when this is done, the oozing is so great that it becomes necessary to use joint drainage in order to carry off the primary wound secretion. It must be remembered by every doctor that the correct scientific treatment of fractured patella is always operative, and that, too, by the open method."

Dr. Davis. "In all fractures of the patella, it has been my habit to operate immediately, and for the hemorrhage I use slight drainage. The drainage I use is not an item of the perfect technique, but simply to take away this blood, and I only use a small thread suture, and one or two clamps on both sides; I believe that a kangaroo tendon is the best for lacing these parts. In a large majority of cases, the structures may be set together and will hold these bones in perfect apposition. I believe that we are going to come to operating on these cases as soon as we get them, and not wait until five days. Nothing is to be gained by waiting."

Dr. Jordan: "I have not much to say in reference to the subject beyond what I have already said in my paper. I want to repeat that the proposition which I tried to make in this paper is this: You have a fracture of the bone which you can not repair properly without operation, and which you can repair properly with an operation, and you have to take your choice. I do not think any will prefer the condition which I have outlined as always taking place after non-operative treatment.

"Finally, I would say that I have not urged open operation in all cases; I just simply repeat what I said: It is to be reserved for special cases and for special reasons."

PART III.

THE ANNUAL REGISTER

OF THE

MEDICAL ASSOCIATION

OF THE

STATE OF ALABAMA.

THE BOOK OF THE ROLLS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

INTRODUCTION.—OF LEGAL IMPORTANCE TO EVERY PHYSICIAN IN THE STATE OF ALABAMA.

Owing to the legal relations which *each* member of *each* county medical society bears to the STATE OF ALABAMA (which relations are set forth in the Code of the State), it is *absolutely necessary* that the presidents, secretaries, treasurers, members of the boards of censors, and each individual member of the societies, should see that the roster of their respective societies is sent to the Secretary of the State Association in accordance with the specific instructions, printed on the blanks sent to the secretary of each society.

It is, therefore, urged upon the officers of each county medical society to see that, in future, the reports be properly filled out in accordance with the printed instructions on the blank. It is advised that the secretaries compare their reports for the current year with the report, as printed in the volume of Transactions for the previous year and that *all* the changes be carefully made.

A strict compliance with the instructions printed on the blank for report will avoid all difficulties.

Explanation.—The letters "mc" stand for "medical college;" the letters "cb" for "county board;" when the certificate is issued by the examining board of the county in the register of which it occurs, the name of the county is omitted; when the certificate was issued by the examining board of some other county, the name of such county succeeds the abbreviation. The first name of every board of censors is that of the president of the board. The letters "ng" stand for "non-graduate." "Diploma recorded" applies to a small number of doctors, who are exempt from criminal prosecution, but who are illegal doctors.

THE ROLL OF THE COUNTY MEDICAL SOCIETIES.

REVISION OF 1904.

AUTAUGA COUNTY MEDICAL SOCIETY—Selma, 1874.

OFFICERS.

President, M. D. Smith; Vice-President, J. W. Davis; Secretary, R. M. Davis; Treasurer, R. M. Davis; Health Officer, C. Rice. Censors—M. D. Smith, R. M. Davis, J. W. Davis, J. E. Wilkinson. R. M. Golson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Davis, John William, mc Atlanta 59, cb 80, Prattville.
Davis, Robert Merritt, mc univ Tulane 95, cb 95, Prattville.
Downs, Elbert Horton, mc Chattanooga 1900, cb 1900, Huckabee.
Gibson, William Beatty, mc Bellevue 89, State Board 92, Autaugaville.
Golson, Robert Marion, mc univ Tenn. 94, cb 94, Prattville.
Hagler, John Wiley, mc Alabama 94, cb Tuscaloosa 94, Prattville.
Marlar, Alonza J., mc Alabama 94, cb Tuscaloosa 94, Billingslea.
Rice, Clarence, mc Alabama 95, cb 95, Prattville.
Smith, Malcolm Daniel, mc univ New York 91, cb Coosa 91, Prattville
Snow, J. Louis mc Alabama 91, cb Lowndes 91, Autaugaville.
Wilkinson, John Edward, mc univ Tulane 69, cb 80, Prattville.
Wilkinson, John Edward, Jr., mc univ South 00, cb 00, Prattville.
Total, 12.

PHYSICIANS NOT MEMBERS.

Golson, Wyatt Washington, mc S. C. 54, cb 84, Independence.

Moved into the county—John Edward Wilkinson, Jr., from Bibb county to Prattville; Wyatt Washington Golson, from Utah to Independence.

BALDWIN COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, J. C. McLeod; Vice-President, J. D. Trammell; Secretary and Treasurer, R. A. Hall; Health Officer, V. McR. Schowalter. Censors—V. McR. Schowalter, R. A. Hall, G. L. Lambert.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Hall, Richard Allen, mc univ Tennessee 94, cb 01, Fairhope.
Hall, Joseph, mc Alabama 01, cb 01, Daphne.
Hastie, John Hamilton, mc univ Tennessee 99, cb 99, Stockton.

Hodgson, Phillip M., mc Atlanta 89, cb Monroe 89, Stockton.
Howe, Charles Lester, mc Kentucky S. of M. 93, cb 93, Magnolia Springs.
Lambert, George Lee, mc Alabama 95, cb Choctaw 95, Bay Minette.
McLeod, J. C., mc Birmingham 1900, cb Coosa 1900, Dolive.
Mershon, Clarence L, mc Iowa 98, cb 99, Fairhope.
Schowalter, Volney McR, mc Alabama 90. cb 90, Point Clear.
Sheldon, George A., mc Alabama 92, cb Mobile 92, Fairhope.
Trammell, Joseph D., mc univ Nashville 57, cb 86, Bay Minette.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Aiken, W. G., mc Alabama 01, cb 01, Stockton.
Blake, T. M., mc Alabama 02, cb 02, Latham.
Coghlan, Malachy, mc Alabama 92, cb 92, Tensaw.
Ferguson, A. M., mc Alabama 02, cb 02, Stockton.
Total, 4.

Examinations—Theodore M. Blake, mc Alabama 00; Ernest E. Breland, mc Barnes 03; Argue M. Ferguson, mc Alabama 03; certificates granted.

Moved into the county—W. G. Aiken, from Florida to Stockton.

BARBOUR COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President. W. P. Copeland; Vice-President, W. H. Robertson; Secretary and Treasurer, W. S. Britt; Health Officer, W. H. Robertson. Censors—H. L. Brannon, J. J. Winn, W. H. Robertson, W. W. Mangum, W. S. Britt.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Battle, Junius Kincade, mc univ Louisville 83, cb 83, Eufaula.
Bennett, Benjamin Franklin, mc Alabama 93, cb 93, Louisville.
Brannon, Henry Lee, mc univ Vanderbilt 85, cb 85, Eufaula.
Britt, Walter Stratton mc Bellevue 98, cb Bullock 98, Eufaula.
Copeland, William Preston, mc Bellevue 70, cb 78, Eufaula.
Gilbert, Alvenzi Jasper, mc Atlanta 87, cb Russell 89. Eufaula.
Houston, James LaFayette mc univ Vanderbilt 98, cb 98, Harris.
Lewis, William Gabriel, mc Atlanta 84, cb Henry 84, Eufaula.
Mangum, William Weightman, mc Atlanta 93, cb Butler 93, Eufaula.
McDowell, William P., mc Alabama 1900, cb 1900, Clayton.
Robertson, William Henry, mc Alabama 87, cb 87, Clayton.
Smart, William Alpheus, mc Louisville 83, cb Coffee 83, Clayton.
Wallace, George Oscar, mc Alabama 91, cb 91, Clio.
White, Robert Lee, mc Alabama 98, State Board 98, Mt. Andrew.

Winn, James Julius, mc Atlanta 68, cb 81, Clayton.
Winn, Locke Minor, mc univ Tulane 1900, State Board 1900, Clayton.
Total, 16.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Borders, James C., Atlanta Southern 85, cb 85, Alston.
Glover, Maximillion, ng, State Board 98, Clio.
Herron, Darrell Jefferson, mc Atlanta 83, cb 83, Solomon's Mill.
Long, Clarence, Chattanooga mc 02, cb 02, Harris.
McInnis, James A., mc Memphis Hospital 96, cb 99, Clio
Middlebrooks, ——, mc Alabama 86, cb —, Elamville.
Patterson, Robert B, mc Atlanta 99, cb 99, Louisville.
Patterson, Thomas, mc Atlanta 69, cb 82, Louisville.
Wilson, Cato Hadras (col.) mc Meharry 99, cb 99, Eufaula.
Total, 9.

Moved into the county—J. C. Borders, from Louisiana to Alston.

Moved out of the county—W. H. Harrison, from Baker Hill to Midway, Bullock county; J. W. Hagood, from Alston to Evergreen, Conecuh county.

BIBB COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, E. M. Prince; Vice-President, W. J. Nicholson; Secretary, T. F. Huey; Treasurer, T. F. Huey; Health Officer, J. S. Moore. Censors—W. H. Bell, E. M. Prince, M. C. Thomas, W. C. Head, J. G. Granberry.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Alexander, J. F., mc univ Vanderbilt 92, cb Colbert 93, Lucile.
Barton, Joseph Fred, ng, State Board 02, Blocton.
Bell, Walter Howard, mc Atlanta 88, cb Calhoun 88, Hargrove.
Bunting, William Battle, mc Memphis Hospital 1900, cb 1901, Six Mile.
Campbell, C. H., mc univ Tenn. 94, cb 94, Breanead.
Cocke, W. T., mc univ Birmingham 03, cb Franklin 03, Coleanor.
Curtis, Robert Clanton, mc Memphis Hospital 01, cb Shelby 01, Garnsey.
Curtis, Joseph Franklin, mc Alabama 93, cb Shelby 93, Blocton.
Granberry, Joseph Langley, mc Louisville 91, cb Choctaw 91, Centerville .
Grimes, J. S., mc — —, cb 00, Grimes Mill.
Head, Walter C., mc Birmingham 01, cb 01, Belle Ellen.
Huey, Thomas F., mc Tulane 01, cb Perry 01, Blocton.

Jenkins, John Felix, mc Alabama 01, cb Mobile 02, Coleanor.
Jones, Rufus C., mc Montezuma 98, cb Shelby 98, Woodstock.
Krout, Chas. Franklin, mc Alabama 95, cb 95, Pondville.
Martin, Charles Patrick, mc Vanderbilt 00, cb 00, Blocton.
Meigs, S. C., mc univ Alabama 02, cb 02, Centerville.
Moore, James Samuel, mc Phys. and Surg. Baltimore 93, cb Jefferson 93, Centreville.
Mosely, D. O., mc univ Washington 72, cb Perry 78, Centerville.
Nicholson, Wm. John, mc Vanberbilt 84, cb 86, Centreville.
Owen, John H., mc Memphis Hospital 99, cb 99, Braehead.
Peacock, Lovick Edward, mc Alabama 92, cb Marengo 92, Blocton.
Prince, Edward Marion, mc Alabama 01, cb 01, Coleanor.
Ray, Jacob Usry, Jr., mc Tennessee 93, cb 93, Woodstock.
Schoolar, Thornby Edward, mc univ Vanderbilt 92, cb 92, Centerville.
Thomas, M. C., mc Tulane 99, cb 99, Lopez.
Trigg, Allen Warren, mc Alabama 81, cb Tuscaloosa 81, Blocton.
Williams, James Medford, mc Georgia 39, cb 79, Centerville.
Woolley, A. M., mc univ Alabama 00, cb 00, Randolph.
Woolley, Chas. Lewis, Old Law, 69, cb Perry 79, Randolph.
Total, 30.

Moved into the county—J. F. Barton, from Montgomery to Blocton; W. T. Cocke, from Birmingham to Coleanor; J. F. Alexander, from Paris, Texas, to Lucile.

Moved out of the county—E. A. Peterson, from Bearhead to Baltimore, Md.; Cobb Nichols, from Blocton to Jackson, Clarke county; county; J. E. Wilkerson, from Brierfield to Prattville, Autauga county.

BLOUNT COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, W. B. Allgood; Vice-President, J. E. Leach; Secretary and Treasurer, J. E. Leach; Health Officer, J. Brown. Censors—W. B. Allgood, D. S. Moore, J. E. Leach, G. W. Baker, J. Brown.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Allgood, William Benton, mc Atlanta Southern 78, cb 78, Chepultepec.
Baker, George W., mc Alabama 03, cb 03, Snead.
Brown, Jesse, mc Memphis Hospital 00, cb 00, Oneonta.
Donehoo, Floyd Augustus George, mc Atlanta 81, cb 81, Oneonta.
Leach, James Edward, mc univ Nashville 1900, cb 1900, Liberty.

Moore, David Sanders, mc Atlanta 80, cb 80, Blountsville.
Whittmeir, Joseph, mc univ Nashville 01, cb 01, Cleveland.
Total, 7.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Allridge, Patrick George, mc Atlanta Southern 76, cb 79, Brooksville.
Armstrong, Jesse Isom, mc Chattanooga 93, cb 93, Blount Springs.
Berrier, J. H., ————, Oneonta.
Cole, William M., mc Atlanta 86, cb 86, Blountsville.
Davidson, Alvin Steele, ng, cb 76, Selfville.
Leander, Wade, mc univ Nashville 93, cb 93, McClarty.
Miles, William C., mc Birmingham 00, cb 02, Village Springs.
Shepard, S. T., mc univ Nashville 03, cb 03, Lehigh.
Total, 8.

BULLOCK COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, F. P. Hixon; Vice-President, Seale Harris; Secretary, C. M. Franklin; Treasurer, G. M. Guthrie; Health Officer, C. M. Franklin. Censors—C. H. Franklin, Seale Harris, T. J. Dean, F. P. Hixon, C. M. Franklin.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Baldwin, James Crews, mc Richmond 94, cb Macon 94, James
Cowan, Samuel Calvin, mc Alabama 89, cb 89, Union Springs.
Darnell, Benjamin Franklin, mc Atlanta 55, cb 83, Fitzpatrick.
Dean, T. Joseph, mc Louisville 94, Chambers 94, Union Springs.
Eidson, James Thomas, mc Alabama 94, cb 94, Fitzpatrick.
Franklin, Charles Higgs, mc Louisiana 66, cb 80, Union Springs.
Franklin, Charles Moore, mc phys and surg New York 98, cb 98, Union Springs.
Guthrie, George Martin, mc Alabama 1900, cb 1900, Inverness.
Harris, Seale, mc univ of Virginia 94, cb 94, Union Springs.
Harrison, William Henry, mc Chattanooga 93, cb Barbour 93, Midway.
Hayes, Robert Hughes, mc St. Louis 79, cb 80, Union Springs.
Hixon, Frank Petty, mc univ Vanderbilt 98, cb 98, Perote.
Pitts, Nathaniel, mc Alabama 01, cb 01, High Ridge.
Pruett, James Henry, mc univ New York 58, cb 80, Midway.
Reynolds, William Henderson, mc Alabama 85, cb 85, Union Springs.
Sessions, Llewellen, mc Georgia 48, cb 80, Union Springs.
Shelton, M. D., mc univ Nashville 69, cb Lee 81, Midway.
Walker, William Austin, mc Jefferson 54, cb 80, Perote.
Total, 18.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Allen, Alexander George William (col), mc Meharry 99, cb Russell 99, Union Springs.

Williams, Anderson Milton (col), mc Leonard 1900, cb 1900, Union Springs.

Total, 2.

Moved into the county—William Henry Harrison, from Barbour county to Midway.

Moved out of the county—George C. Merriam, from Matthews to Montgomery county.

BUTLER COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, R. E. Smith; Vice-President, J. C. Watson; Secretary and Treasurer, T. D. Stallings; Health Officer, J. C. Kendrick. Censors—J. A. Kendrick, T. D. Stallings, E. G. Donald, C. Wall, J. C. Watson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Broughton, John Thomas, mc univ Pennsylvania 52, cb 79, Greenville.

Donald, Erskine Grier, mc Alabama 93, cb 93, Monterey.

Garrett, James Jefferson mc Georgia Reform 82, cb 82, Forest Home.

Kendrick, Joel Cloud, mc univ Nashville 52, cb 78, Greenville.

Kendrick, John Aaron, mc univ Tulane 94, cb 94, Greenville.

McCaine, James Jordan, mc univ Tulane, 82, cb 82, Chapman.

Morris, William Eli, mc Alabama 97, cb Conecuh 97, Georgiana.

Moorer, Rufus Alonzo, mc univ Vanderbilt 02, cb Lowndes 02, Industry.

Perdue, James Lewis, mc Alabama 75, cb 79, Greenville.

Sally, George W., mc Memphis 03, cb 03, Manningham.

Shanks, Rufus G., mc Memphis 01, cb 01, Garland.

Smith, Robert Edward, mc Alabama 82, cb 88, Greenville.

Stallings, Thomas Daniel, mc Alabama 89, cb Lowndes 89, Greenville.

Wall, Conrad, mc Alabama 97, cb 97, Forest Home

Watson, James Crawford, mc Alabama 98, cb 98, Georgiana.

Total, 15.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Hall, A. J., mc — —, cb —, McKenzie.

Simmons, W. C., mc —, cb 78, Manningham.

Tillery, L. S., mc — —, cb —, Fort Deposit.

Total, 3.

Moved into the county—A. J. Hall, from Lowndes county to McKenzie.

Examinations—George W. Sally, mc Memphis Hospital 1893, certificate granted; John L. Floyd, mc Maryland 02, certificate granted.

CALHOUN COUNTY MEDICAL SOCIETY—Montgomery, 1881.

OFFICERS.

President, E. C. Anderson; Vice-President, W. B. Arberry; Sec-

President, E. C. Anderson; Vice-President, A. N. Steele; Secretary, E. K. Moon; Treasurer, E. C. Anderson; Health Officer, J. M. Whiteside. Censors—W. A. Smith, W. H. Kinnebrew, J. M. Whiteside, J. F. Walker, A. N. Steele.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Anderson, Edmond Clack, mc Kentucky s of m 77, cb 85, Anniston.

Arberry, William Buchanan, mc univ Vanderbilt 82, cb Macon 82, Jacksonville.

Bowcock, Robert Lee, mc univ Virginia 86, cb 88, Anniston.

Brothers, Jhomas Jefferson, mc Phys. & Surg. Baltimore 03, State Board 02, Anniston.

Davis, John Francis Marion, mc Atlanta 60, cb 80, Choccolocco.

Douthit, Andrew Jackson, ng (old law), cb 81, Alexandria.

Gordon, Frederick Elliott, mc Alabama 82, cb Marengo 82, Anniston.

Greene, Allen Augustus, mc univ Vanderbilt 81, cb Chilton 91, Anniston.

Hughes, Robert Lee, mc Atlanta 92, cb 92, Choccolocco.

Kelly, John Baker, mc Jefferson 59, cb Coosa 84, Anniston.

Kinnebrew, William Henry, mc univ New York 78, cb 83, Piedmont.

Ligon, Arthur Wellington, mc univ Vanderbilt 83, cb Cleburne, 84, Oxford.

Meharg, Shelton Theodore, mc Memphis Hospital 1900, cb 1900, Weavers.

Meharg, William Gray, mc Memphis Hospital 99, cb 99, Grayton.

Moon, Edward Kimbrough, mc univ Grant 92, cb Marshall 92, Anniston.

Moore, J. C., mc univ Nashville 00, cb Blount 00, Anniston.

McCurry, Samuel Josephus, mc Atlanta 80, cb Cherokee 81, Anniston.

Oats, William Henry mc Bellevue 98, cb Mobile 00, Anniston.

Sargent, Oscar, mc univ Vanderbilt 80, cb Franklin 88, Jacksonville.

Smith, William Armstead, mc Alabama 81, cb Monroe 81, Anniston.

Sparks, H. O., mc Phys. & Surg. Atlanta 02, cb 02, Piedmont.

Steele, Abner Newton, mc Alabama 90, cb Pickens 90, Anniston.

Taylor, James Ratchford, mc Atlanta 98, cb Randolph 98, Anniston.

Vann, Paul D., mc Alabama 96, cb DeKalb 96, Anniston.
Walker, James Fleming, mc univ Louisville 92, cb 92, Anniston.
Whiteside, John McIntyre, mc univ Vanderbilt 84, cb 84, Oxford.
White, W. Y., mc univ Vanderbilt 87, cb 87, Anniston.
Williams, Benjamin Dudley, mc univ Louisville 81, cb 87, Oxford.
Williams, George Coke, (old law, n. g.), cb 81, White Plains.
Williams, Mark Johnson, mc Birmingham 02, cb 02, Oxford.
Total, 29.

HONORARY MEMBERS.

Hughes, John Leander, mc Georgia 51, cb 83, Piedmont.
Williamson, John Thomas, (old law), cb 81, Peeks Hill.
Warren, William James, mc Atlanta 89, cb Tallapoosa 89, Anniston.
Wikle, Jessie Lane, mc Georgia 71, cb 81, Anniston.
Total, 4.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Brock, J. C., mc univ Vanderbilt 84 cb Randolph 84, Anniston.
Bullard, Francis Aurelius, ng, cb 81, Oxford.
Crook, John E., mc univ Vanderbilt —, cb 81, Jacksonville.
Huger, Richard Proctor, mc South Carolina 71, cb 81, Anniston.
Matthews, George Andrew, mc univ Michigan 66, cb 90, Anniston.
Thomas, Charles E. (col), mc Long Island Hospital 90, cb 90, Anniston.
Total, 6.

Moved into the county—Oscar Sargent, from Franklin county to Jacksonville.

Examinations—Willis Mills, certificate refused.

Died—Phillip Houston Brothers, Zula; of cerebral apoplexy.

CHAMBERS COUNTY MEDICAL SOCIETY—Montgomery, 1881.

OFFICERS.

President, W. D. Gaines; Vice-President, E. M. Finley; Secretary and Treasurer, C. S. Yarbrough; Health Officer, Z. T. Grady. Censors—W. D. Gaines, J. P. Liles, Wm. D. Gay, T. H. Haralson, Z. T. Grady.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Gaines, William D., mc Alabama 92, cb 92, LaFayette.
Grady, Zachary Taylor, mc Atlanta 81, cb 81, LaFayette.
Dickinson, W. P., mc univ Alabama 03, cb Mobile 03, LaFayette.
Gay, William M., mc Southern —, cb Randolph —, Five Points.
Green, Elbert Pierce, mc Georgia 99, cb Randolph 99, Lanette.

Grady, J. L., mc univ Atlanta 95, cb 96, Lafayette.
Haralson, Thomas H., mc Memphis Hospital 99, cb 99, Cusseta.
Ison, Josiah Allen, mc Southern 87, cb Tallapoosa 87, Wise.
Liles, John P. mc Birmingham 98, cb 98, Mill Town.
McLendon, H. L., mc univ Grant —, cb 1900, Waverley.
Finley, Emmett M., mc Atlanta 96, cb 96, Fredonia.
Striplin, John T., mc Augusta 99, cb Randolph 99, Fredonia.
Rutland, J. B., mc univ Nashville —, cb 82. Lanette.
Thompson, J. F., mc univ Georgia —, cb 98. Langdale.
Yarbrough, C. S., mc univ Tenn. 01, cb Russell 01, LaFayette.
Total, 15.

HONORARY MEMBERS.

Smith, Lawrence, mc univ Georgia 52, cb 82, Cussetta.
Ray, Benjamin F., Sr., mc Jefferson 42, cb 82, LaFayette.
Hudson, W. H., mc univ Atlanta 86, cb 86, Montgomery.
Sanders, W. H., mc univ, Jefferson 61, cb Mobile 78, Montgomery.
Total, 4.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Davis, J. L., mc univ Alabama —, cb 82, LaFayette.
Hamner, F. P., mc — —, cb Randolph —, Five Points.
Coleman, Hiram F., mc univ Southern —, cb —, Stroud.
Hodges, Wyatt F., mc univ Alabama 92, cb 97, Riverview.
Layfield, —, mc — —, cb — —, Langdale.
Milford, H. A., mc — —, cb — —, Five Points.
Total, 6.

Moved into the county—W. P. Dickinson, from Mobile county to LaFayette; H. A. Milford, from Virginia to Five Points.

Moved out of the county—W. J. Lone, from LaFayette to Opelika; J. L. Hilt, from Five Points to Lineville, Clay county.

Examination—L. P. Esslinger, mc univ Alabama 03, certificate granted.

Deaths—J. H. Bledsoe, LaFayette; T. H. Bonner, Hickory Flat; J. W. DeVaughan, Milltown.

CHEROKEE COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, S. C. Tatum; Vice-President, W. S. McElrath; Secretary, R. L. McWhorter; Treasurer, A. C. Shamblin; Health Officer, H. L. Appleton. Censors—S. C. Tatum, A. C. Shamblin, H. L. Appleton, J. P. Farill, R. L. McWhorter.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Appleton, Hugh Lowndes, mc univ Vanderbilt 92, cb 92, Center.
Ballard, Ira Chelsea, mc Chattanooga 1900, cb 1900, Leesburg.
Elliott, Theoderic Miles, mc Kentucky s of m 76, cb 87, Grassland.
Farill, John Paul, mc Atlanta 81, cb 87, Farill.
McElrath, William Sparks, mc Memphis 1900, cb 1900, Cedar Bluff.
McWhorter, Robert Lee, mc Alabama 87, cb 87, Gaylesville.
Miller, Thomas Gideon, mc Kentucky s of m 86, cb 86, Gaylesville.
Shamblin, Arthur C., mc Chattanooga 92, cb 94, Gaylesville.
Tatum, Samuel Carter, mc univ Vanderbilt 93, cb 93, Center.
Total, 9.

Honorary Members.

Farill, John Washington, ng old law, cb 87, Farill.
Jones, Henry S., mc Atlanta —, cb 99, Bid.
Shamblin, Arnold, ng, old law, cb 87, Broomtown.
Total, 3.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Brown, Alexander M., mc Atlanta —, cb 87, Round Mountain.
Bomar, Richard Ritter, mc Atlanta Southern 85, cb 85, Bomar.
Cook, Edward Augustus, mc univ Vanderbilt 84, cb 84, Kirks Grove.
Green, Elijah L., mc Louisville —, cb 01. Forney.
Emerson, J. Forrest, mc univ Louisville —, cb Marshall —, Rock Run.
Lawrence, James Madison, mc Memphis 01, cb 01, Spring Garden.
Matthews, John Patrick, mc univ Tennessee 86, cb 87, Maple Grove.
Morgan, W. T., mc univ Vanderbilt 92. cb Calhoun 96, Rock Run.
Shamblin, John Louis, mc Atlanta 88, cb 87, Broomtown.
White, Thomas Noel, mc univ of Georgia 57, cb 87, Spring Garden.
Wright, Luther, mc Atlanta Southern 98, cb 98, Osceola.
Total, 11.

Moved into the county—William D. Hoyt, from Rome, Ga., to Farill; A. M. Brown, from Indian Territory to Round Mountain.

Moved out of the county—William Lee Stubbs, from Cedar Bluff to Altoona, Jefferson county; John C. Slack, from Slackland to Gadsden, Etowah county.

Died—W. D. Hoyt, Farill; septicœmia.

CHILTON COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, P. I. Hopkins; Vice-President, R. B. McNeil; Secretary and Treasurer, N. S. Johnson; Health Officer, V. O. Camp-

bell. Censors—P. I. Hopkins, J. P. Hayes, R. B. McNeil, A. B. Claughton, A. J. L. Dennis.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Adams, John Byrd, mc Alabama 98, cb 98, Clanton.
Campbell, Virgil O., mc Birmingham 97, cb 97, Clanton.
Claughton, A. B., mc Alabama —, cb —— —, Maplesville.
Dennis, Andrew Jackson L., mc Southern, Atlanta, 90, cb 94, Verbena.
Hopkins, Percy I., mc Vanderbilt 99, cb Bibb 99, Clanton.
Hayes, Julius Poe, mc 96, cb 96, Clanton.
Johnson, Napoleon S., mc Alabama 01, cb 01, Clanton.
Matthews, E. A., mc — —, cb —, Clanton.
McNeil, R. B., mc Birmingham 98, cb 98, Jemison.
Middleton, William Frank, mc Louisville 90, cb 97, Clanton.
Moody, Franklin Parnell, mc Alabama 01, cb 01, Thorsby.
Parnell, Charles Nicholas, mc Alabama 91, cb 91, Maplesville.
Wise, William T., mc Atlanta 89, cb 94, Coopers.
Total, 13.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Goggans, P. P., mc — —, cb Elmore 84, Coopers.
Johnson, J. M. B., mc — —, cb —, Jemison.
Stabler, Lorenzo V., mc Vanderbilt, cb Butler, Thorsby.
Ellsberry, John P., mc Virginia 60, cb Montgomery 84, Ocampo.
Total, 4.

Moved into the county—John P. Ellsberry, from Helena, Shelby county, to Ocampo. L. V. Stabler, from Butler county to Thorsby.

Deaths—W. E. Stewart, Clanton; John F. Wise, Coopers.

CHOCTAW COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, H. W. Robinson; Vice-President, W. B. Staples; Secretary and Treasurer, D. T. McCall; Health Officer, D. T. McCall. Censors—S. Alman, D. T. McCall, W. H. Christopher.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Alman, Samuel, mc Louisville 98, cb 98, Melvin.
Christopher, Frank Evans, mc Louisville 94, cb 94, Isney.
Christopher, W. H., mc Memphis Hospital 01, cb 01, DeSotoville.
Harris, E. P., mc --, cb —, Pennington.
Horn, Edward G., mc Louisville 01, cb 01, Pushmataha.
Lenoir, Thomas R., mc Alabama 92, cb 92, Womack Hill.

McCall, Daniel T., mc Louisville 94, cb 94, Butler.
Phillips, Jacob Parker, mc Alabama 86, cb 85, Yantley.
Trice, Peter Albert, mc Louisville 02, cb 02, Drag.
Robinson, H. W., mc Memphis 01, cb 01, Bevill.
Staples, W. B., mc univ Nashville 02, cb Washington 02, Bladon.
Total, 11.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Mason, Henry Howard, mc Alabama 03, cb 03, Butler.
McElroy, C. I., mc Memphis 01, cb Sumter 01, Mt. Sterling.
Total, 2.

Moved out of the county—J. C. Christopher, from Desotoville to Marengo county.

Examinations—Henry H. Mason, mc Alabama 03, certificate granted; Daniel H. Trice, mc univ Louisville 03, certificate granted; F. A. McCall, mc univ of South 04, certificate granted.

Died—R. F. Moody, Butler.

CLARKE COUNTY MEDICAL SOCIETY—Greenville, 1885.

OFFICERS.

President, B. S. Barnes; Vice-President, J. W. Armistead; Secretary and Treasurer, J. M. Cobb; Health Officer, C. E. Pugh. Censors—J. T. Pugh, J. E. Evans, Cobb Nichols, J. H. Kimbrough, L. O. Hicks.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Armistead, James Westwood, mc Alabama 83, cb 84, Grove Hill.
Barefield, Henry Litman, mc Alabama 72, cb Cherokee 87, Gosport.
Barnes, Benjamin Shields, mc Pennsylvania 59, cb 84, Suggsville.
Boroughs, Bryan, mc univ Louisville 70, cb 84, Jackson.
Chapman, Gross Scruggs, mc Alabama 79, cb 84, Jackson.
Cobb, Jesse Monroe, mc univ Tulane 93, cb 93, Grove Hill.
Cobb, Willie Floyd, mc Alabama 95, cb 95, Barlow Bend.
Dahlberg, Charles Isaac, mc Alabama 87, cb 88, Suggsville.
Davidson, James S., mc Alabama 92, cb 94, Thomasville.
Davis, Henry George, mc Alabama 72, cb 84, Gainestown.
Evans, James Erwin, mc Alabama 96, cb 96, Thomasville.
Fleming, John William, mc Alabama 79, cb 84, Salitpa.
Flinn, James, mc Alabama 01, cb 01, Gainestown.
Gilmore, John Arcade, mc univ Louisville 86, cb 86, Thomasville.
Hawkins, Jeremiah N., mc Memphis Hospital 01, cb Marengo 01, Fulton.
Hicks, Lamartine Orlando, mc Alabama 73, cb 84, Jackson.

Jeffrey, James Gray, mc Alabama 88, cb Wilcox 88, Whatley.
Kimbrough, John, mc Alabama 98, cb 98, Thomasville.
Kirvin, Thomas J. mc Alabama 82, cb 86, Jackson.
Nichols, Cobb, mc Alabama 98, cb 01, Jackson.
Pugh, Clement Eugene, mc Alabama 89, cb 89, Grove Hill.
Pugh, Albert Sidney, mc Kentucky s of m 92, cb 93, Grove Hill.
Pugh, Albert Sidney, mc Alabama 96, cb 96, Grove Hill.
Robinson, Amon N., mc Alabama 93, cb 02, Coffeeville.
White, Alexander, mc Alabama 94, cb 94, Cobbville.
Total, 23.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Armistead, Lee, ng, Campbell.
Davis, Lawrence James, mc — —, cb —, Bashi.
Prim, Thomas Jefferson, ng, cb 84, Salitpa.
Total, 5.

Died—John William Todd, Marvin; blood poisoning.

CLAY COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, J. W. Wood; Vice-President, J. T. Manning; Secretary, C. P. Gay; Treasurer, S. W. Owens; Health Officer, C. P. Gay. Censors—S. J. Gay, B. A. Stephens, J. T. Manning, J. W. Wood, J. M. Barfield.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Barfield, Jessie M., mc Atlanta P & S 01 cb 01, Barfield.
Darby, Cunningham Wilson, univ Georgia —, cb 87, Rozell.
Gay, Coleman Pendleton, mc Atlanta Southern 97, cb Randolph 97, Lineville.
Gay, Stonewall Jackson, mc Atlanta Southern 88, cb 88, Lineville.
Hilt, John Leonard, mc Atlanta Southern 89, cb Jefferson 89, Lineville.
Irvin, William Fletcher, mc univ Louisville 87, cb 87, Millerville.
Jordan, Joseph Wiley, mc Atlanta 91, cb 87, Ashland.
Manning, John Thomas, mc univ Vanderbilt 85, cb 87, Lineville.
Northen, Thomas, mc Atlanta 78, cb 87, Ashland.
Owens, Seaborn Wesley, univ Georgia —, cb 87, Bluff Springs.
Sims, George Nelson, mc Graffenburg 56, cb 87, Ashland.
Stephens, Albert Russell, mc Atlanta Southern 88, cb 88, Delta.
Stephens, Burrell Anderson, mc Alabama 92, cb 92, Lineville
Wood, James William, mc Atlanta 97, cb 97, Ashland.
Total, 14.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Killgore, James Allen, mc Memphis 01 ,cb 01, Sikesville .
McDairmid, Angus Kelley, mc Alabama 72, cb 87, Hollins.
McDairmid, J. C., ng, cb 87, Hollins.
Total, 3.

Moved into the county—J. L. Hilt, from Five Points, Chambers county, to Lineville.

Moved out of the county—J. H. Garrett, from Delta to —

CLEBURNE COUNTY MEDICAL SOCIETY—Selma, 1884.

OFFICERS.

President, S. L. B Blacke; Vice-President, L. R. Wright; Secretary and Treasurer, T. J. Johns; Health Officer, S. L. Williams. Censors—T. J. Johns, S. L. B. Blacke, J. H. Ligon, W. H. Lindsey, L. R. Wright.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Blacke, Simeon Lovell Bearce, mc Ohio 69, cb 98, Fruithurst.
Hudgens, Noel C., mc Georgia 47, cb 84, Oak Level.
Jenkins, W. O., mc Graffenburg 60, cb Clay 84, Heflin.
Johns, Thomas Jefferson, mc Alabama 88, cb 93, Edwardsville.
Ligon, James H., mc univ Vanderbilt 91, cb 91, Oakfuskee.
Ligon, Wilson Milton, mc Georgia —, cb 84, Oakfuskee.
Lindsey, Jeremiah M., mc Chattanooga 97, cb 97, Hightower
Lindsey, William Henry, mc Chattanooga 94, cb 94, Fruithurst.
Pennington, James Edward, mc Georgia 88, cb 94, Easom Hill, Ga.
Reid, Rhesa Thomas, ng —, cb 84, Edwardsville.
Robert, David P., ng —, cb 84, Oak Level.
Williams, Sidney Lorenza, mc Chattanooga 94, cb 94, Heflin.
Wright, Lee Roy, mc univ Vanderbilt 1900, cb 1900, Heflin.
Total, 13.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Haygood, Samuel Pierce, cb 84, Soloman.
Sorrell, John Wesley, mc —, cb 84, Chulafinnee.
Total, 2.

COFFEE COUNTY MEDICAL SOCIETY—Greenville, 1885.

OFFICERS.

President, P. T. Fleming; Vice-President, H. R. Bradley; Secretary, A. T. Colley; Treasurer, H. F. Harp; Health Officer, H. F. Harp. Censors—P. T. Fleming, H. R. Bradley, W. W. Grubbs, N. M. Ham, W. A. Lewis.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bradley, Henry Rudolph, mc Alabama 96, cb Barbour 96, Elba.
Colley, Aaron Thomas, mc univ Louisville 94, cb Pike 94, Enterprise.
Costen, Wm. Henry, mc Atlanta Southern 89, cb Crenshaw 89, Elba.
Fleming, Porter Thomas, mc univ Louisville 94, cb 94, Enterprise.
Grubbs, Wm. Westford, mc univ Louisville 89, cb Covington 90, Enterprise.
Ham, Nelson Matthew, mc Alabama 98, cb 98, Elba.
Harp, Hector Frederick Augustus, mc Alabama 93, cb 93, Elba.
Lewis, Walter Augustus, mc univ Tulane 97, cb Barbour 97, Enterprise.
Milton, Philip Elington, mc Georgia Eclectic —, cb Covington 01, Brockton.
Rushing, Francis Marion, mc univ Louisiana 51, cb 85, Elba.
Treadwell, Lucius M., ng. cb Pike 85, Enterprise.
Total, 11.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Ballard, Benj. Randal, mc univ Tennessee 94, cb Crenshaw 94, Alberton.
Blue, Jasper Dixon, ng. 85, Elba.
Carter, J. D,. ng, cb —, Clintonville.
Crook, W. H., mc Alabama 84, cb 85, Victoria.
Eiland, W. H., mc Atlanta 81, cb 84, Enterprise.
Hill, Benj. Augustus, mc Richmond 60, cb 95, Elba.
Howell, David D., mc —, cb —, Enterprise.
Mansfield, E. E., mc Louisville 90, cb Houston 04, Enterprise.
Massey, B. J., mc Birmingham 03, cb 03, Richburg.
Rivenbark, Jackson, mc Georgia Eclectic —, cb —— —, Brocton.
Total, 10.

Moved into the county—W. H. Crook, from —— to Victoria; E. E. Mansfield, from U. S. Army to Enterprise; B. J. Massey, from — to Richburg.

Moved out of the county—J. P. Phillips, from Brockton to Florala, Covington county.

Died—W. H. Cardwell, Victoria; consumption.

COLBERT COUNTY MEDICAL SOCIETY—Montgomery, 1881.

OFFICERS.

President, C. R. Palmer; Vice-President, W. H. Blake; Secretary and Treasurer, J. T. Haney; Health Officer, H. B. Thompson. Censors—C. R. Palmer, H. B. Thompson, H. W. Blair, G. T. McWhorter, W. A. Burns.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Blair, Hugh Walter, mc univ Vanderbilt 88, cb 88, Sheffield.
Blake, Wyatt Heflin, mc univ Vanderbilt 84, cb Randolph 87, Sheffield.
Burns, Wm. Arthur, mc Memphis 91, cb Lamar 91, Sheffield.
Burns, Edgar Rush, mc Chattanooga 01, cb Lamar 01, Sheffield.
Cooper, Samuel J., mc Memphis Hospital 71, cb —, Tuscumbia.
Haney, Julius Tillman, mc Alabama 91, cb 92, Tuscumbia.
Henry, Taylor H., mc Memphis 99, cb Pickens 99, Tuscumbia.
Mann, Sidney Henry, mc Birmingham 01, cb Elmore 01, Sheffield.
McWhorter, Geo. Tilghman, mc univ Louisville —, cb 81, Riverton.
Moore, Riley Jackson, mc univ Louisville —, cb 81, Riverton.
Palmer, Charles Richard, mc univ Vanderbilt 83, cb 83, Tuscumbia.
Thompson, Humphrey Bate, mc Louisville 93, cb 93, Tuscumbia.
Walker, David Harris, mc univ Vanderbilt 81, cb 82, Spring Valley.
Wiley, James E., mc Alabama 98, cb 98, Tuscumbia.

Total, 14.

Honorary Member.

Wall, Alfred Alexander (retired), mc Pennsylvania 49, cb Madison 78, Tuscumbia.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Carter, Patrick Parkerson, mc univ Louisville, 66, cb 79, Brick.
Diebold, Christy Balthas, mc Tulane 87, cb Lauderdale 01, Sheffield.
Gilmore, Francis T. mc Louisville ——— (retired), Tuscumbia.
King, Frederick Q., Leighton.
Masterson, John H., mc univ Louisville 89, cb 89, Cherokee.
McCluskey, James A., ng, Rock Creek.
Morris, Charles Thomas, mc Louisville 75, cb Henry 75, Sheffield.
O'Reilly, John Edmund, mc Alabama 74, cb 84, Cherokee.
Williams, Charles W., mc Nashville 81, cb 81, Cherokee.

Total, 9.

Moved into the county—T. H. Henry, from Palm, Pickens county, to Tuscumbia. E. R. Burns, from Nauvoo, Walker county, to Sheffield.

Moved out of the county—J. C. Smith, from Tuscumbia to Birmingham. J. B. Doan, from Leighton to Jefferson county.

Examination—George A. Cryer, mc univ Vanderbilt, 03, certificate refused.

CONECUH COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, W. F. Betts; Vice-President, R. T. Holland; Secretary and Treasurer, Marcellus McCreary; Health Officer, A. A. McKittrick. Censors—P. M. Bruner, Marcellus McCreary, A. A. McKittrick, W. F. Betts, E. L. Stallworth.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Betts, William Frank, mc Tulane 93, cb Monroe 95, Evergreen.
Bradley, Ely, mc univ Pennsylvania 59, cb 84, Bellville.
Bruner, Pinckney McDonald, mc Alabama 61, cb Lowndes 79, Evergreen.
Fountain, Hugh Thomas, mc Alabama 72, cb Monroe 79, Burnt Corn.
Holland, Richard Thomas, mc Alabama 90, cb Escambia 90, Castleberry.
Mixon, John Nelson, univ Louisville 98, cb 98, Commerce.
McCreary, John Absalom, mc univ Louisiana 60, cb 84, Evergreen.
McCreary, Marcellus, mc Tulane 96, cb 96, Evergreen.
McKittrick, Adam Alexander, mc Georgia 60, cb 84, Evergreen.
Newton, Guy Gordon, mc Alabama 98, cb 98, Evergreen.
Ruback, Carl, mc Memphis 96, cb 96, Evergreen.
Shaver, William Benjamin, univ Georgia Reform 60, cb 84, Herbert
Stallworth, Emmet Lemuel, mc Alabama 94, cb 94, Evergreen.
Tatum, Fletcher Lothair, mc Atlanta 95, cb Pike 95, Brooklyn.
Watson, William, mc Alabama 93, cb 93, Repton.

Total, 15.

Honorary Member.

Belo, Frederick Arthur, mc Jefferson 74, cb —, Evergreen.

Moved into the county—Guy G. Newton, from Mississippi to Evergreen.

Examination—Walter Boardman Moorer, mc Alabama, certificate granted.

Died—Andrew Jay, Evergreen.

COOSA COUNTY MEDICAL SOCIETY—Birmingham, 1883.

OFFICERS.

President, J. W. Maddox; Vice-President, W. A. Holloway; Secretary and Treasurer, J. Jones; Health Officer, J. C. Cousins. Censors—J. Jones, A. J. Peterson, E. Argo, W. A. Holloway, J. C. Cousins.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Argo, Eugene, mc univ Vanderbilt 91, cb 91, Goodwater.
Cousins, James Columbus, mc univ Maryland 91, cb 91, Equality.
Holloway, William A., mc univ Alabama 89, cb Tallapoosa 89, Kellyton.
Hunter, John T., mc Birmingham 01, cb Elmore 01, Speed.
Jones, Julius, mc univ Vanderbilt 84, cb 84, Rockford.
Maddox, Joseph W., mc univ Tennessee 01, cb Elmore 01, Travelers
Maxwell, William E., mc Alabama 85, cb 85, Kellyton.
Maxwell, Cecil Kelley, mc Alabama 92, cb 92, Kellyton.
Moon, William Henry, mc Alabama 79, cb 83, Goodwater.
Nolen, Richard Spencer, mc Kentucky s of m 89, cb 89, Equality.
Peterson, Albert James, mc univ Vanderbilt 89 ,cb 89, Hanover.
Pruett, James W., mc Alabama 92, cb Talladega 92, Weogufka.
Total, 12.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Dollar, Henry Clay, mc — —, cb — —, Weogufka.
Matthews, John Thomas, mc univ Tulane 73, cb 84, Hanover.
Penton, John Abner, mc Bellevue 1900, cb 01, —
Pope, Chandler M., mc Jefferson 55, cb 78, Good Water.
Salter, Preston, (botanist), ng, cb 84, Goodwater.
White, W. T., mc univ Tennessee —, cb 86, Rockford.
Total, 6.

Moved into the county—H. C. Dollar, from Atlanta to Weogufka.

Moved out of the county—W. B. Dunlap, from Stewartville to Hollins, Clay county; John W. Grimes, from Marble Valley to Talladega Springs.

COVINGTON COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, W. L. Bean; Vice-President, L. W. Wynn; Secretary, and Treasurer, F. R. Yarbrough; Health Officer, F. R. Yarbrough. Censors—L. E. Broughton, H. E. Battle, T. E. Dalton, W. L. Bean, L. W. Wynn.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Adams, Edward Leonard, mc Alabama 97, cb 97, Florala.
Battle, Henry E., mc univ Tennessee 96, cb Montgomery 97, Andalulusia.
Bean, Walton L., mc — —, cb — —, Andalusia.
Bozeman, Thomas Compton, mc Alabama 92, cb 93, Gantt.

Broughton, Louis Edward, mc univ Tulane 93, cb Butler 93, Andalusia.
Dalton, Tobe E., mc Georgia Eclectic 94, cb Coffee 95, Opp.
Ealum, James R., mc Alabama 91, cb 91, Red Level.
Pennington, James C., mc univ Tennessee 94, cb Crenshaw 94, Andalusia.
Pierson, W. Whatley, mc Alabama 99, cb 01, River Falls.
Phillips, J. P., mc Memphis Hospital 98, cb Marion 98, Florala.
Smith, William R., mc Alabama 86, cb Butler 86, Red Level.
Stewart, Benjamin C., mc Alabama 00, cb Pike 00, Opp.
Terry, James Edward, mc Alabama 02, cb Hale 02, Red Level.
Wilson, William F., mc Augusta 67, cb Coffee —, Opp.
Wynn, Andrew Lee, mc univ Maryland 89, cb 03, Florala.
Yarbrough, Frank Reid, mc univ Tennessee 98, cb Crenshaw 98, Andalusia.
Total, 16.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Harris, A. F., mc Jefferson 60, cb — —, Opp.
Malone, E. Y., mc Alabama —, cb —, Florala.
Miller, R. L., mc Georgia Eclectic —, cb —, Florala.
Miller, A. H., mc Georgia Eclectic —, cb —, Florala.
Strickland, John M., mc Alabama 00, cb —, Opp.
Trammel, R. H., mc Alabama —, cb —, Florala.

Moved into the county—J. P. Phillipp, from Geneva county to Florala; John M. Strickland, from Lowndes county to Opp; Frank R. Yarbrough, from Russell county to Andalusia.

Moved out of the county—J. A. Whaley, to Geneva county.

Examination—Esker W. Lewis, mc Alabama 03, certificate granted.

CRENSHAW COUNTY MEDICAL SOCIETY—Mobile, 1882.

OFFICERS.

President, C. R. Rushton; Vice-President, W. W. Avant; Secretary, B. M. Kendrick; Treasurer, J. R. Horn; Health Officer, G. S. Tankersley. Censors—J. R. Horn, J. B. Moxley, S. M. May, C. R. Rushton, J. L. Bryan.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Avant, William Watts, mc univ Tennessee 90, cb —, Patsburg.
Bryant, George, mc Alabama 01, cb 01, Honoraville.
Horn, Richard Kersey, mc Georgia Eclectic 81, cb 84, Bullock.

Horn, Joseph Richard, mc Alabama 87, cb 87, Luverne.
Jones, Andrew Jackson mc Louisville 85, cb 85, Highland Home.
Kendrick, James Evans, mc Alabama 69, cb 82, Luverne.
Kendrick, Bishop Marvin, mc Alabama 03, cb 03, Luverne.
May, Samuel William, mc phys and surg Baltimore 82, cb 83, Brantley.
Moxley, Jos. Benjamin, mc Georgia Eclectic 99, cb 99, Brantley.
Odom, William F., mc univ Tennessee 94, cb Covington 94, Searight.
Rogers, William Thomas, mc Alabama 01, cb Butler 01. Brantley.
Rushton, Christopher Reid, mc Atlanta Southern 92, cb Covington 92, Rutledge.
Sheppard, Charles Webb, mc Atlanta Southern 91, cb Butler 91. Honoraville.
Tankersley, Felix Marcus Tillius, univ Tennessee 85, and Tulane 95, cb 85, Highland Home.
Tankersley, George Stewart, mc Tulane 93, cb 93, LaPine.
Thrower, Steven Simon, ng, cb 84, Bradleyton.
Total, 16.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Dyer, Edward Fox, nx, cb 84, Rutledge.
Eiland, Thomas C., 98, cb 98, Bullock.
Ford, Julian C., mc ——— —, cb Pike —, Bradleyton.
Parker, ——, mc —— —, cb —— —, Searight.
Pryor, William Dayton, mc univ Tenn. 57, cb 81, Aiken.
Ray, Thomas uincy, mc Atlanta Sou. 94, cb 94, Searight.
Total, 6.

Moved into the county—B. M. Kendrick.

Moved out of the county—M. L. Morgan, to High Note, Genova county; —— Jones, from Glenwood to ——; William Peter Knight, from —— to Mobile.

Examinations—Bishop M. Kendrick, mc Alabama, 03; Manley L. Morgan, mc Birmingham 03; Joseph P. Merrill, mc Memphis, 03; certificates granted.

Died—William Thomas Burgamy, Rutledge.

CULLMAN COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, G. Hartung; Vice-President, L. Hays; Secretary, M. L. Johnson; Treasurer, G. Hartung; Health Officer, R. H. Baird. Censors—G. Hartung, C. E. Herrin, J. Yeilding, A. P. Martin, L. Hays.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Baird, Robert Henry mc Alabama 92, cb Blount 92, Cullman.
Brindley, Bethea P., mc Atlanta 92, cb 92, Simcoe.
Creamer, James David, mc Atlanta Sou. 93, cb Cleburne 93, Hanceville.
Culpepper, John William, mc Chattanooga 04, cb 04, Cranehill.
Hartung, Gottloeb, mc Wuerzburg, Germany 78, cb 92, Cullman.
Harris, Riley W., ng 85, cb 92, Garrisons Point.
Hays, Luther, mc Grant univ 91, cb 91, Cullman.
Herrin, Charles E., mc Grant 02, cb 02, Trimble.
Johnson, Marquis LaFayette, mc Alabama 75, cb Marshall 86, Cullman.
Martin, A. P., mc Chattanooga 97, cb Morgan 97, Cullman.
Martin, William Henry, mc Atlanta 86, cb 86, Hanceville
Moon, James Prince, mc univ Grant 1900, cb 1901, Bremen.
Oden, James Henry, (old law), cb 86, Unity.
Price, William Henry, mc univ Tennessee 90, cb Cleburne 98, Crane Hill.
Yeilding, John, mc univ Grant 94, cb Cullman 94, Walter.
Total, 15.

PHYSICIANS NOT MEMBERS OF THE SOCIETY

Abbott, James W., old law 76, cb 86, Felkins.
Burnum, Francis Marion, mc univ Nashville 79, cb 86, Cullman.
Cossey, Thomas Watson, mc Atlanta Southern 91, cb 96, Jones Chappel.
Crumbley, Jessie James, mc Atlanta 92, cb 94, Holly Pond.
Gray ——, mc —— —, cb —— —, ——
Haden, Henry Hughes, mc univ Vanderbilt 86, cb Blount 86, Holly Pond.
Hudson, William Henry, mc Alabama 86, cb Blount 86, Walter.
Johnston Peter T., mc Louisville 88, cb Marion 85, Bremen.
Ike, Frederic, mc New York —, cb Blount 99, Cullman.
Keller, Louis Martin, mc Atlanta 88, cb 88, Etha.
Lee, Louis F., illegal, Jones Chappel.
McLarty, George Washington, mc Nashville 76, cb 86, Joppa.
Parker, D. H., mc —— —, cb —— —, Arkadelphia.
Walling, John Henry, ng, cb 89, Vinemont.
Watts, Henderson E., mc Atlanta 02, cb 02, Holly Pond.
Whorton, John P., mc univ Vanderbilt 90, cb 91, Joppa.
Winn, James Thomas, mc univ Vanderbilt 89, cb 89, Baileyton.
Total, 17.

Moved into the county—A. P. Martin, from Basham's Gap, Morgan county, to Cullman; John William Culpepper, from Chattanooga to Crane Hill.

Moved out of the county—W. W. Whorton, to Porter, Jefferson county; Robert Willis Humphries, from ——— to Cedars, Morgan county; Wiley M. Cook, from Garden City to ——.

Examinations—John Thomas Edwards, mc Nashville 90; Harvey L. Waid, mc univ Nashville 03; Rufus Lee Milligan, mc univ Nashville, 03; certificates granted.

Died—George W. McPherson, Hanceville; pneumonia.

DALE COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, R. H. Norris; Vice-President, B. L. Byrd; Secretary and Treasurer, E. B. Ard; Health Officer, E. B. Ard. Censors—S. M. C. Howell, B. L. Byrd, E. B. Ard, A. J. Morris, W. D. Mixson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Ard, Erastus Byron, mc univ Vanderbilt, 87, cb 87, Ozark.
Bell, Seaborn Bentley, mc Georgia Reform 92, cb 95, Echo.
Byrd, Benjamin Littleberry, mc Alabama 92, cb 92, Daleville.
Cowart, William A., ng, cb Coffee 85, Charlton.
Coleman, Benjamin Franklin, mc univ Nashville 61, cb Bullock 75, Ozark.
Cullens, Frederick Bacon, ng, State Board 97, Ozark.
Howell, Samuel Matthew Crawford, mc Atlanta 91, cb 91, Midland City.
Johnston, Ira Leonidas, mc Memphis Hopsital 93 cb Pike 93, Charlton.
Lingo, John Henry, ng, State Board 97, Clayhatchie.
Mixson, William Daniel, mc Chattanooga 98, cb 98, Haw Ridge.
Mixson, David Porter, mc P & S Atlanta 02, cb Coffee 02, Skipperville.
Morris, Andrew Jackson, mc Atlanta Southern 87, cb Geneva 89, Newton.
Norris, Roy Hart, mc Alabama 97, cb Monroe 97, Charlton.
Reynolds, Robert Davis, mc Alabama 80, cb 87, Ozark.
Spears, Philip Benton, mc Georgia Reform 91, cb 91, Pinckard.
Smisson, Henry J., mc univ South Carolina 61, cb 87, Ozark.
Scott, Harvey Edward, mc univ Vanderbilt 80, cb Dallas 80, Ozark.
Scott, Marcus Tullius Cicero, mc Birmingham 97, cb Henry 97, Clopton.
Weed, Samuel Lafayette, mc Alabama 85, cb 87, Ozark.

Total, 19.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Dawson, George Washington, mc Alabama 94, cb Chilton 94, Newton.
Espy, Curtis, ng (illegal), Abbeville.
Total, 2.

Moved into the county—Henry J. Smisson, from Slocomb, Geneva county, to Ozark; Hugh C. Smisson, from — to Ozark.

Moved out of the county—Henderson Leroy Holman, from Ozark to Mobile; C. B. Powell, from Skipperville to Geneva county.

Died—John Clinton Holman, Ozark; diabetes mellitus.

DALLAS COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, B. B. Rogan; Vice-President, J. N. Furniss; Secretary, I. C. Skinner; Treasurer, C. Ritter; Health Officer, S. G. Gay. Censors—J. P. Furniss, E. B. Ward, C. Ritter, J. M. Donald, S. G. Gay.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Caine, Vaughn Holmes, mc Alabama 92, cb Perry 92, Safford.
Chapman, John Thomas, mc Alabama 86, cb Marengo 87, Selma.
Donald, James Marion, mc Alabama 84, cb 84, Marion Junction.
DuBose, Frank Goodwin, mc Tulane 93, cb Talladega 93, Selma.
Edwards, Daniel B., mc Alabama 98, cb 98, Tyler.
Furniss, John Perkins, mc univ New Orleans 66, cb 78, Selma.
Furniss, John Neilson, mc univ Virginia 1900, cb 04, Selma.
Gay, Samuel Gilbert, mc Alabama 87, cb 87, Selma.
Gee, William Henry, mc Alabama 98, cb Mobile 98 ,Burnsville.
Harper, William Wade, mc Tulane 91, cb 91, Selma.
Howard, Thomas Greenwood, mc univ Washington 68, cb Autauga 78, Selma.
Kendall, William Quinton, mc Phys. and Surg. Baltimore 80, cb 80, Berlin.
King, Goldsby, mc South Carolina 80, cb 80, Selma.
Kirkpatrick, Samuel, mc univ Vanderbilt 88, cb 88, Selma.
Lockhart, Thomas Earnest, mc univ Tulane 90, cb Perry 90, Selma.
Moore, Lawrence Henry, mc Alabama 01, cb 01, Orrville.
Pitts, William McLean, mc univ Louisville 94, cb 94, Selma.
Phillips, William Crawford, mc Tulane 73, cb 78, Vallegrande.
Riggs, Samuel Watt, mc Phys. and Surg. Baltimore 93, cb —, Pleasant Hill.
Ritter, Clement, mc Jefferson 90, cb DeKalb 90, Selma.
Rogan, Barney Burns, mc univ Grant 96, cb 96, Selma.

Skinner, Ira Clifton, mc Birmingham 01, cb 01, Selma.
Sutton, Robert Lee, mc univ Columbia 89, cb Lee 89, Orrville.
Taylor, William Henry, mc Alabama 87, Marengo 87, Central Mills.
Thompson, Hallett W., mc univ Tulane 00, cb Autauga 00, Plantersville.
Ward, Edward Burton, mc univ New York 82, cb Hale 82, Selma.
Total, 26.

HONORARY MEMBER.

Furniss, Henry Dawson, mc univ Virginia 99, cb 99, New York.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Allison, Samuel Blakemore, mc Louisville 91, cb 93, Carlowville.
Allison, Joseph D. (retired), mc South Carolina 78, cb 78, Carlowville.
Boykin, Samuel Swift, mc Alabama 96, cb Mobile 98, Portland.
Burwell, Lincoln Laconia (col.), mc Leonard N. C. 89, State Board 89, Selma.
DuBose, J. J., mc —— —, cb —, Burnsville.
Groves, Joseph Asbury, mc South Carolina 54, cb 78, Orrville.
Hall, John James, mc univ Louisiana 67, cb 78, Orrville.
Kyser, George Washington, mc Richmond 65, cb 78, Richmond.
Moorer, John Wesley (col.) mc Meharry 99, cb Clark 99, Selma.
Moseley, Elijah Buckle, mc univ La 57, cb 78, Boguechitto.
Pegues, Charles Ives, mc univ Tulane 93, cb 96, Safford.
Pugh, Braxton Bragg, mc Alabama 89, cb Clark 89, Browns.
Sellers, Wm. Thomas, mc Alabama, 92, cb Bibb 92, Browns.
Total, 13.

Moved into the county—John N. Furniss, from New York to Selma.

Examinations—John N. Furniss, mc univ Virginia 00; univ N. Y and Bellevue, certificate granted. Charles A. Dexter, mc Jefferson 01, certificate granted; John W. Wilson, mc univ Vanderbilt 03, certificate granted.

Deaths—John Owen Boykin, Tilden; Joseph Miller Cochran, Eleanor; Joseph Marion Donald, Harrell; James Harry Kyser, Richmond.

DeKALB COUNTY MEDICAL SOCIETY—Greenville, 1885.

OFFICERS.

President, E. R. Smith; Vice-President, T. H. Appleton; Secretary, W. E. Quin; Treasurer, T. H. Appleton; Health Officer, E. P. Nicholson. Censors—W. E. Quin, W. S. Duff, T. H. Appleton, H. P. McWhorter, E. P. Nicholson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Appleton, Thomas Hayne, mc Chattanooga 92, cb 92, Collinsville.
Duff, William Sayers, mc Alabama 89, cb 90, Ft. Payne.
McWhorter, Horace Puckett, mc univ Vanderbilt 81, cb 85 Collinsville.
Miller James Taylor, mc univ Vanderbilt 78, cb 85, Collinsville.
Nicholson, Edward Pierson, mc univ Nashville 61, cb 85, Valley Head.
Quin, William Everett, mc Kentucky s of m 81, cb 85, Ft. Payne.
Smith, Eugene Robinet, mc Chattanooga 00, cb Jackson 00, Henegar.
Wright, William Ira, mc univ of Vanderbilt 90, cb 91, Dawson.
Wright, Charles Wesley, mc Alabama 93, cb 93, South Hill.
Total, 9.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bailey, Alexander Henry, ng, cb 89, Chavies.
Black, John Hugh, mc Georgia Eclectic 93, cb 93, Halford.
Bogle, Joseph H., mc univ Vanderbilt 1900, cb 1900, Fyffe.
Bush, George Volney, mc Southern 90, cb Marshall 99. Anneta.
Green, Philamon Buel, mc univ Vanderbilt 76, cb 85, Ft. Payne.
Green, William Mastin, mc univ Vanderbilt 77, cb 85, Ft. Payne.
Hall, John Decard, mc Atlanta Southern 92, cb 97, Chavies.
Harrison, Joseph J., mc univ Vanderbilt 93, cb 93, Geraldine
Killan, Henry Elliott, ng, cb 89, Brandon.
Moore, Wiley Evan, mc Atlanta 90, cb Shelby 90, Lebanon.
Smith, Samuel Parish, mc Kentucky c of m 89, cb 89, Crossville.
Winston, John Nelson, mc Louisville 66, cb 85, Valley Head.
Vann, Sidney J., mc univ Georgia 00, cb 00, Battelle.
Wyatt, J. J. ng, cb 89, Geraldine
Total, 14.

ELMORE COUNTY MEDICAL SOCIETY—Birmingham, 1887

OFFICERS.

President, Z. T. Crawley; Vice-President, H. M. Martin; Secretary and Treasurer, W. M. Gamble; Health Officer, J. A. Howle. Censors—J. A. Howle, W. M. Gamble, M. J. E. Estes, N. B. Sewell, E. P. Moon.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES

Boswell, Franklin A., mc Alabama 1900, cb Pike 1900, Elmore.
Crawley, Zebulon T., mc Chattanooga 01, cb 02, Buyck.
Estes, Mordeca James Elliot, mc Atlanta 95, cb 95, Deatsville.
Gamble, William Melvin, mc Louisville 87, cb Jefferson 87, Wetumpka.

Garrett, Allen Jefferson, mc Alabama 93, cb 93, Tallassee.
Gulledge, Jessie, mc Alabama 1900, cb 1900. Tallassee.
Howle, James Augustus, mc Alabama 90, cb 90, Eclectic.
Huddleston, Wm. Allen, mc Atlanta 80, cb 84, Wetumpka.
Huddleston, Robert Lee, mc Atlanta 80, cb Autauga 92, Deatsville.
Justice, Oscar Suttle, mc Alabama 85, cb 85, Central.
Martin, Henry Marcellus, mc univ Virginia 99, State Board 00, Wetumpka.
Milner, Samuel Robert, mc Alabama 93, cb 94, Jordan.
Moon, Eddie P., mc univ Vanderbilt 98, cb 98, Wetumpka.
Nix, James Ringold, mc South Carolina 67, cb 84, Deatsville.
Powell, O. C., mc Chattanooga 02, cb 03, Buyck.
Robinson, Edwin Hunt, mc Memphis Hospital 49, cb 84, Robinson Springs.
Rushin, James Thomas, mc univ Tennessee 83, cb 84, Tallassee.
Sewell, Japez Wesley, mc Alabama 90, cb 90, Titus.
Sewell, Neal Baker, mc univ Vanderbilt 86, cb 86, Buyck.
Smith, Charles Henry, mc Birmingham 03, cb Franklin 03, Speigner
Total, 20.

Honorary Member.

Gamble, John Wesley, mc Louisville 72, cb Blount 74, Wetumpka.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Beckett, Thomas Travis, mc Alabama 59, cb 84, Titus.
Dorough, John William, mc Atlanta 94, cb 94, Tallassee.
Fielder, Martin Lucius, mc Graffenburg 59, cb 84, Eclectic.
Jowers, Sol. Franklin, mc Alabama 85, cb 85, Central.
Lett, Harrison Templeton, mc Tulane 75, cb 84, Good Hope.
Powell, Abel Anderson (retired), mc Atlanta Southern 92, cb 92, Tallassee.
Powell, James Robert (retired), mc Graffenberg 65, cb 84, Tallassee.
Robinson, Dudley, mc Alabama 61, cb —, Robinson Springs.
Rea, B. F., mc Alabama 85, cb Chambers 86, Coosada.
Warren, William Allen, mc Alabama 85, cb 85, Tallassee.
Total, 10.

Moved into the county—Charles Henry Smith, from Franklin county to Speigner.

Died—S. O. Humphries, Speigner.

ESCAMBIA COUNTY MEDICAL SOCIETY—Greenville, 1885.

OFFICERS.

President, W. L. Abernethy; Vice-President, F. H. Mason; Secretary and Treasurer, S. C. Henderson; Health Officer, S. C. Henderson. Censors—W. L. Abernethy, S. C. Henderson, J. E. Martin, E. L. Kelly, P. H. M. Tippin.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Abernethy, William L., mc Alabama 94, cb Monroe 94, Flomaton.
Abernethy, William Henry, mc Transylvania 48, cb Monroe 77, Flomaton.
Henderson, Stephen Cary, mc Alabama 87, cb 87, Brewton.
Kelly, Edward Lamar, mc Alabama 1900, cb Monroe 1900, Hamnac.
Malone, Henry Holcombe, mc univ New York 60, cb 86, Brewton.
Martin, John Elijah, mc Alabama 75, cb Bullock 79, Herrington.
Mason, Francis Henry, mc Alabama 91, cb Monroe 91, Brewton.
Parker, Edwin Theodore, mc Tulane 91, cb 91, Brewton.
Peavy, Julius Franklin, mc Alabama 88, cb Washington 88, Atmore.
Tippin, Philip Henry Mulcahy, mc Alabama 94, cb 94, Brewton.
Webb, Alfred Prellar, mc Alabama 96, cb Washington 97, Atmore.
Total, 11.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Christian, J. C., mc —, cb —, Jack Springs.
Ford, J. T. B., mc —, cb 86, Pollard.
McClendon, Lewis Marshall, mc Alabama 74, cb Butler 84, Brewton.
Owens, Jared Durwood, mc Alabama 79, cb Butler 79, Pollard.
Owens, Jared Durwood, Jr., mc Alabama —, cb —, Pollard.
Smith, Price Hall, mc Alabama 94, cb 94, Brewton.
Wilkinson, James Anthony, mc univ Louisville 79, cb 86, Flomaton.
Total, 7.

Moved into the county—Jared Durwood Owen, Jr., from Bay Minette, Baldwin county, to Pollard.

Moved out of the county—J. M. Roberts, irregular, from Bradley to Florida.

Died—S. G. Dilburn, run over by train.

ETOWAH COUNTY MEDICAL SOCIETY—1878.

OFFICERS.

President, W. H. Acton; Vice-President, H. L. Ison; Secretary, A. W. Ralls; Treasurer, J. P. Stewart; Health Officer, C. L. Murphree. Censors—E. S. Jones, C. L. Guice, W. H. Acton, J. P. Stewart, F. P. Landers.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Acton, Wm. H., mc Alabama 86, cb Jefferson 86, Alabama City.
Baskin, Herchell Virgil, mc Alabama 98, cb 98, Hokes Bluff.
Camp, Erasmus Taylor, mc univ Vanderbilt 88, cb Cleburne 88, Gadsden.
Ellison, John Henry, mc univ Vanderbilt 88, cb 89, Walnut Grove.
Edwards, J. F., mc Nashville 90, cb 90, Zuber.
Fancett, G. F., mc Phys. & Surg. Baltimore 03, cb 03, Gadsden.
Guice, Chas. Lee, mc Chattanooga 93, cb Dale 93, Gadsden.
Gramling, James W., mc Alabama 01, cb 01, Rock Springs.
Hawkins, J. P., mc Chattanooga 94, cb Jefferson 94, Alabama City.
Ison, H. L., mc Atlanta Southern 91, cb Tallapoosa 91, Gadsden.
Jones, Eli Spear, mc Alabama 83, cb Jefferson 83, Gadsden.
Landers, Franklin Pearce, mc Atlanta 83, cb 84, Hokes Bluff.
Lawrence, John William, mc univ Vanderbilt 86, cb Cherokee 86, Turkey Town.
McConnell, Robert Franklin, mc Atlanta 81, cb St. Clair 81, Attalla.
Murphree, C. L., mc Birmingham 02, cb 02, Gadsden.
Ralls, John Perkins, mc Georgia 44, cb 78, Gadsden.
Ralls, Arthur W., mc Phys. & Surg. Atlanta 02, cb 02, Gadsden.
Stewart, John Pope, mc Alabama 86, cb 86, Attalla.
Wilson, George Washington, mc Alabama 95, cb 96, Attalla.
Wood, James Harden, mc univ Vanderbilt 82, cb 82, Attalla.
Total, 20.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Baker, Daniel Harris, mc univ Vanderbilt 82, cb 82, Gadsden.
Dowdy, Edgar Lee, mc univ Vanderbilt 76, cb 76, Keener.
Edwards, William S., mc Kentucky 85, cb 85, Gadsden.
Gilliland, Henry Forney, mc Louisville 90, cb —, Hill.
Hurst, James A., mc Alabama 91, cb 91, Walnut Grove.
Kinnett, Jackson Flavis, mc Georgia Eclectic 92, cb Shelby 92, Gadsden.
Lester, J. H., mc —— —, cb 78, Attalla.
Morgan, George Washington, mc univ Nashville 89, cb 89, Keener.
Patterson, J. J., mc —, Mountainboro.
Slaughter, Charles Jefferson, mc Atlanta —, cb 81, Aurora.
Total, 10.

Moved out of the county—R. F. Nimocks, to West Alabama; R. A. Burns, to Coal City, St. Clair county; W. T. Coggins, from Keener to Tuscaloosa county.

Examinations—William A. Attaway, mc Meharry 02, certificate granted; Henry P. Robson, mc Birmingham 03, certificate granted.

Died—W. L. Funderberg, Gadsden.

FAYETTE COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, J. S. Hollis; Vice-President, C. B. Blackburn; Secretary and Treasurer, W. A. Graham; Health Officer, W. A. Graham. Censors—J. S. Hollis, W. A. Graham, V. Savage, J. D. Young, J. G. Smith.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Blackburn, Carl Belton, mc univ Nashville 03, cb 03, Fayette.
Collins, J. William, (old law), cb Lamar 84, Berry Station.
Graham, Wm. Alexander, mc Louisville 92, cb 92, Fayette.
Hocutt, Lucius Thornton, mc Atlanta 82, cb 84, Davis Creek.
Hollis, Jonathan Shelton, mc Alabama 81, cb Lamar 81, Covin.
Jones, Wm. Wilburn. (old law) 58, cb 84. Newtonville.
Jones, Tarley William, mc Vanderbilt 1900, cb 1900, Newtonville.
Maddox, Steven E.. mc Grant 91, cb Lamar 91, Bluff.
Peters, Thomas M.. mc Alabama 90, cb 90, Fayette.
Smith, John Gardner. mc Alabama 89, cb Lamar 89, Bankston.
Savage, Victor. mc Vanderbilt 89, cb 89, Pilgrim.
Young, James Dopsie, mc Memphis Hospital 94, cb Lamar 94, Fayette.
Total, 12.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Ashmore, Bryant Tucker, mc Grant univ —, cb 03, Glen Allen.
Lane, Jesse Washington. mc Vanderbilt 86, cb Walker 86, New River.
Olive, George W.. mc Alabama 82, cb Tuscaloosa 83, Berry Station.
Smothers, Minor C., mc univ Nashville 03, cb Winston 03, Spencer.
Total, 4.

Moved into the county—G. W. Olive, from Tuscaloosa county to Berry; Minor C. Smothers, from Lamar county to Spencer.

Examinations—Bryant Tucker Ashmore, mc Grant univ., certificate granted; Carl Belton Blackburn, mc univ Nashville, certificate granted.

FRANKLIN COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, W. J. Clark; Vice-President, N. E. Underwood; Secretary and Treasurer, W. A. Gresham; Health Officer, W. A. Gresham. Censors—W. J. Clark, N. E. Underwood, A. J. Underwood, W. A. Gresham.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Barnes, Thomas Benton, mc Memphis 74, cb 88, Rockwood.
Clarke, John King, Sr., mc univ Nashville 58, cb 88, Russellville.
Clark, John McWhorter, mc univ Louisville 50, cb Lawrence 88, Russellville.
Clark, William Josiah, mc Birmingham 96, cb 96, Russellville.
Cleere, William Washington, mc univ Nashville 82, cb 88, Newburg.
Gresham, Walter Asa, mc univ Vanderbilt 00, cb 00, Russellville.
Harris, Elijah McCulloch, mc univ Vanderbilt 87, cb 87. Russellville.
Hughes, William Porter, mc ——, cb ——. Burleson.
Jones, Thomas Speck, mc univ Vanderbilt 78, cb 88, Russellville.
Trimble, Joseph Adison, mc univ Vanderbilt 87, cb 87, Russellville.
Underwood, Nimrod Terrell, mc Alabama 86, cb 88, Russellville.
Underwood, Andrew Jackson, mc Birmingham 99, cb 02, Belgreen.
Underwood, Nimrod Edgar, mc Chattanooga 00, cb 02, Belgreen.
White, William Wyatt, mc s of m Kentucky 85, cb Marion 85, Russellville.

Total, 14.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

White, Marvin Spears, mc Louisville 03, cb Marion 03, Phil Campbell.

Moved into the county—M. S. White, from Marion county to Phil Campbell.

Moved out of the county—John Douglass, from Russellville to North Birmingham.

Examinations—Thomas M. Hughes, mc Chattanooga 00, certificate granted; William T. Cocke, mc Birmingham 03, certificate granted; James A. Thorn, mc Alabama 03, certificate granted; Bartlett J. Massey, mc Birmingham 03, certificate granted; Alonzo Graves, mc Sims Beaumont 00, certificate granted.

GENEVA COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, T. T. Campbell; Vice-President, M. F. Fleming; Secretary and Treasurer, O. L. Rivenbark; Health Officer, C. B. Powell. Censors—T. T. Campbell, G. W. Huey, M. F. Fleming, A. R. Chapman, H. P. Treadwell.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Ard, James Henry, mc Alabama 88, cb 88, Geneva.
Campbell, Terrell Taylor, mc Atlanta 83, cb Dale 87, Hartford.
Chapman, Abner Richard, mc univ Vanderbilt 88, cb Coffee 88, Geneva.

Clements, John N., mc Jefferson 56, cb 88, Flat.
Cox, William, mc ——— —, cb 88, Dundee.
Dismukes, Lewis Leon, mc univ Tenn. 99, cb Pike 99, Geneva.
Fleming, John Clifton, mc Alabama 91, cb 95, Hartford.
Fleming, James A., mc Alabama 82, cb Dale 87, Hartford.
Fleming, Milliard Filmore, mc Louisville —, cb 88, Geneva.
Fleming, Oscar H., mc Atlanta 94, cb 03, Slocomb.
Huey, G. W., mc Alabama 90, cb Barbour 90, Hartford.
Herring, George H., mc Georgia Eclectic 97, cb 03, Slocomb.
Hooten, William Arrington, mc Atlanta 95, cb Henry 95, Slocomb.
Jay, John D., mc ——— —, Pro forma certificate, Pera.
Justice, Robert Lee, mc Alabama 94, cb Pike 94, Geneva.
Morgan, Manley L., mc Birmingham 03, cb Crenshaw 03, Highnote.
Matheney, William F., mc Atlanta 95, cb Coffee 96, Chancellor.
Powell, Charles B., mc Alabama 00, cb 00, Hartford.
Rivenbark, Oscar Lee, mc Georgia Eclectic 93, cb 1900, Hartford.
Riley, H. C., mc Memphis 03, cb 03, Cold Springs.
Shute, Joseph V., mc ——— —, cb 88, Slocomb.
Smith, William W., mc Chattanooga —, cb 03, Coffee Springs.
Smith, Gordan W., mc Louisville 92, cb 92, Big Creek.
Treadwell, Hardy P., mc Georgia Eclectic 93, cb 88, Hartford.
Ward, Thomas Jefferson, mc ——— —, cb 88, Watford.
Williamson, George W., mc Alabama 93, cb Crenshaw 93, Hartford.
Total, 26.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Chalker, Benjamin, mc Georgia Eclectic 97, cb 97, Coffee Springs.
Heath, Frank, mc —, cb —, Bellwood.
Johnston, John, illegal, Flat.
Lewis, Oscar, mc — —, cb Covington 03, Samson.
Ramsay, Walter Dekel, ng, illegal, Whittaker.
Total, 5.

Moved into the county—L. L. Dismukes, from China Grove, Pike county, to Geneva; James A. Fleming, from Horse Creek, Walker county, to Hartford; C. B. Powell, from Skippersville, Dale county, to Hartford; H. C. Riley, from Headland, Henry county, to Coffee Springs; George W. Williamson, from Goshen, Pike county, to Hartford.

Moved out of the county—C. B. McKinnon, from Geneva to Milton, Fla.; H. J. Smisson, from Slocumb to Ozark, Dale county.

Examinations—R. B. Warren, mc Alabama 03, certificate granted; W. W. Smith, mc Chattanooga 00, certificate granted; George H. Herring, mc Atlanta 97, certificate granted; A. H. Fleming, mc Atlanta 94, certificate granted.

Died—A. B. Jernigan, Slocomb; pneumonia.

GREENE COUNTY MEDICAL SOCIETY—Selma, 1878.

OFFICERS.

President, T. W. Smith; Vice-President, S. E. Deal; Secretary, G. A. Moore. Censors—T. W. Smith, G. A. Moore, S. E. Deal, R. D. Lucius, A. P. Smith.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Deal, Seaborn Edgar, mc Alabama 94, cb Tuscaloosa 94, Mantua.
Duncan, Augustus Meek, mc Alabama 74, cb 79, West Greene.
Goodloe, E. C., mc univ Vanderbilt 97, cb —, Boligee.
Legare, Julius Keith, mc univ New York 86, cb 87, Forkland.
Lucius, Richard DeKalb, mc Alabama 71, cb Tuscaloosa 78, Eutaw.
Moore, George Augustus, mc Alabama 90, cb 90, Eutaw.
Murphy, Samuel Silenus, mc Alabama 81, cb 84, Pleasant Ridge.
Murphy, Charles, mc Birmingham —, cb —, Pleasant Ridge.
Smith, Armand Pfister, mc s of m Kentucky 75, cb 79, Eutaw.
Smith, Thomas W., mc Alabama 94, cb 94, Union.
Snoddy, Virgil. mc Alabama 75, cb 79, Knoxville.
Total, 11.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Barclay, James Paxton, mc univ New York 71, cb 79, Eutaw.
Byrd, Alexander Hamilton, mc univ New York 69, cb 80, Eutaw.
Byrd, Robert Taylor, mc univ New York 69, cb —, Boligee.
Morgan, Isaac DuBose, mc univ Pennsylvania 58, cb 79, Eutaw.
Smith, J. J. A., mc Atlanta 58, cb —, Union.
Thetford, William Fletcher, mc univ Louisiana 67, cb —, Boligee.
Total, 6.

HALE COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, J. P. Borden; Vice-President, R. F. Monette; Secretary and Treasurer, H. G. Perry; Health Officer, Jacob Huggins. Censors—J. P. Borden, E. N. Driver, Jacob Huggins, R. J. Griffin, H. G. Perry.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Abernathy, Thomas Pinney, mc Memphis Hospital 99, cb 99, Havana.
Borden, James Pennington, mc Southern 75, cb 78, Greensboro.
Carson, Shelby Chadwick, mc Tulane 74, cb Greene 79, Greensboro.
Davis, Andrew Rufus, mc Atlanta 90, cb 90, Five Mile.
Dominick, Robert Franklin, mc — —, cb —, Brush Creek.
Driver, Elisha Newton, mc Louisiana 93, cb 93, Newbern.

Duggar, Reuben Henry, mc Pennsylvania 58, cb 78, Prairieville.
Gewen, Wm. Christopher, mc univ Louisiana 78, cb 78, Akron.
Griffin, Rufus Jackson, mc Alabama 90, cb 90, Moundville.
Huggins, Jacob, mc Pennsylvania 60, cb 78, Newbern.
Leonard, Martin Luther, mc Alabama 94, cb Shelby 94, Cedarville.
Malloy, Martin Luther, mc Alabama 99, cb Lee 99, Stewarts.
Monette, Reuben Fletcher, mc univ New York 92, cb 02, Greensboro.
Perry, Henry Gaither, mc Georgia Reform 88, cb Butler 88, Greensboro.
Poellnitz, Charles Augustus, mc Tulane 01, cb 01, Greensboro.
Spencer, George M., ng (Old Law), cb Tuscaloosa 78, Brush Creek.
Tidmore, Dodson Wright, mc univ of South 99, cb 99, Phipps.
Turk, W. L., mc univ Nashville 82, cb Sumter 83, Gallion.
Young, Henry Tutwiler, mc univ of South 99, cb 99, Greensboro
Total, 19.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

McCollum, Edgar Patton, mc Alabama 93, cb Perry 93, Greensboro.
Staples, James Gwin, mc Louisville 01, cb 01, Prairieville.
Total, 2.

Moved out of the county—O. A. Roscoe, from Cedarville to Jefferson county; William H. Thurmond, from Moundville to Georgia; B. E. Huckabee, from Greensboro to Birmingham.

Examinations—Marvin E. Mooreland, mc univ Louisville 02, certificate granted; James Wesley Powers, mc Louisville 03, certificate granted.

HENRY COUNTY MEDICAL SOCIETY—Birmingham, 1883.

OFFICERS.

President, W. C. Steagall; Vice-President, W. A. Bird; Secretary and Treasurer, L. S. Nichols; Health Officer, T. J. Kennedy. Censors—L. Hendrick, L. S. Nichols, J. R. Vann, W. A. Bird, L. T. Hutto.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bird, Willis Alonzo, mc Chattanooga 98, cb 01, Headland.
Burdeshaw, Lee Roy, mc Chattanooga 99, cb 99, Headland.
Fowler, James Thomas, mc South Carolina 81, cb 81, Shorterville.
Hendrick, Lowndes, mc Alabama 90, cb Pike 90, Abbeville.
Hutto, Little Thomas, mc Alabama 03, cb 03, Newville.
Kennedy, Thomas Jos., mc univ South 99, cb 1900, Haleburg.
Nichols, Lucius Sherman, mc Alabama 97, cb 97, Abbeville.
Sporman, Charles F., mc Alabama 87, cb 89, Headland.

Steagall, Wm. Collingsworth, mc Bellevue 60, cb Dale 87, Abbeville.
Steagall, Albert Sidney, mc Alabama 88, cb Dale 87, Abbeville.
Vann, James Robert, mc Alabama 99, cb 1900, Little Rock.
Total, 11.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Blackledge, John Richard, mc Alabama 89, cb 91, Abbeville.
McAlvin, E. G. ng (illegal), Lawrenceville.
Oates, Wyatt Stephen, mc ——— —, cb 91, Headland.
Weems, William S., mc Alabama 92, (illegal), Lawrenceville.
McGee, M. A., mc —— —, cb —, Hilliardsville.
Total, 5.

Moved out of the county—H. C. Riley, from Headland to Geneva county.

Examinations—Henry C. Riley, mc Memphis 03, certificate granted; L. T. Hutto, mc Alabama 03, certificate granted.

HOUSTON COUNTY MEDICAL SOCIETY—Talladega, 1903.

OFFICERS.

President, W. H. Williams; Vice-President, C. L. C. Atkeson; Secretary, H. Green; Treasurer, J. L. Ellis; Health Officer, B. Phillips. Censors—S. O. Carlisle, J. F. Yarbrough, H. Green, R. D. Blackburn, C. E. Granberry.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES

Atkeson, Clarence Lee Crawford, mc Phys. and Surg. Baltimore 84, cb Lee 86, Columbia.
Belcher, William Ree, mc Atlanta 89, cb Dale 90, Dothan.
Blackshear, Randall Davis, mc Kentucky s of m 92, cb Dale 94, Dothan.
Calhoun, Henry Paulden, mc Atlanta 95, cb Henry 95, Cottonwood.
Carlisle Samuel Oscar, mc Vanderbilt 94, cb Pike 94. Dothan.
Chalker, William Pounce, mc Georgia Eclectic 97, cb Geneva 97, Dothan.
Cooper, George Hays, mc Chattanooga 1900, cb Lamar 1900, Dothan.
Dalton, Christopher Columbus, mc Georgia Eclectic 90, cb Dale 91, Daleva.
Davie, Mercer Stillwell, Sr., mc Jefferson 69, cb Dale 87, Dothan.
Davie, Mercer Stillwell, Jr., mc Tulane 99, cb Bibb 99, Dothan.
Ellis, James Lewis, mc Memphis Hospital 86, cb Dale 86, Dothan.
Fillingim, William Henry. mc univ Tennessee 96, cb Henry 03, Ashford.

Galloway, Fletcher Wilson, mc Memphis Hospital 03, cb 03, Cottonwood.

Granberry, Curtis Eugene, mc Memphis Hospital 01, cb Henry 01, Gordon.

Green, Henry, mc Alabama 92, cb Conecuh 92, Dothan.

Hammond, George Abner, mc Phys and Surg Baltimore 84, cb Henry 84, Dothan.

Hilliard, Charles Wesley, mc Alabama 95, cb Pike 95, Dothan.

Howell, John Robert Graves, mc Atlanta 90, cb Dale 88, Dothan.

Lewis, Benjamin Jefferson, mc Alabama 99, cb Coffee 99, Gordon.

Matthews, John Hartman, ng, cb Geneva 88, Cottonwood.

Middlebrooks, Wm. Thomas, mc Alabama 86, cb Barbour 86, Dothan.

Moody, Earle Farley, mc Tulane 03, cb 03, Dothan.

Pate, Walter Eugene, mc Atlanta 93, cb Henry 95, Ashford.

Phillips, Bernard, mc Heidelberg, Germany, 74, cb Henry 91, Dothan.

Ryals, William M., mc Atlanta 87, cb Henry 95, Cowarts.

Stephens, David Dudley, mc Alabama 95, cb Dale 95, Dothan.

Stokes, James Eldridge, mc Georgia Eclectic 92, cb Henry 97, Kinsey.

Stovall, John Henry, mc Atlanta 60, cb Henry 89, Columbia.

Twitty, Frank S., mc Phys and Surg Baltimore 93, cb Henry 94, Columbia.

Williams, Wm. Henry, mc Memphis Hospital 91, cb Henry 91, Dothan.

Yarborough, John Fletcher, mc Atlanta 92, cb Henry 92, Columbia.

Young, Harvey Monroe, mc Alabama 93, cb Henry 93, Dothan.

Total, 32.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Christian, J. N., ng (illegal), Webb.

Pleas, McElvin, ng (illegal), Ashford.

Total, 2.

Moved into the county—W. L. Mullins, from — to Granger; D. D. Stephens, from Brundidge, Pike county, to Dothan; C. W. Hilliard, Jr., from Pike county to Dothan; W. R. Belcher, from Dale county to Dothan.

Moved out of the county—W. L. Mullins, from Granger to Society Hill, Macon county.

Examinations—Earle F. Moody, mc Tulane 03; Fletcher W. Galloway, mc Memphis Hospital, 00; William L. Mullins, mc Alabama, 97; A. B. Cannon, mc Marion-Sims 99; E. E. Mansfield, mc Louisville Medical 92; H. C. Simmons, mc Grant univ 97, certificates granted.

JACKSON COUNTY MEDICAL SOCIETY—Mobile, 1882.

OFFICERS.

President, T. E. Callan; Vice-President, H. Boyd; Secretary and Treasurer, J. P. Rorex; Health Officer, T. J. Bouldin. Censors—W. C. Maples, J. W. Knowlton, T. E. Callan, T. J. Bouldin, E. R. Smith.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES

Blakemore, Andrew Newton, mc univ Tennessee 80, cb 82, Larkinsville.

Boyd, Hugh, mc Memphis 99, cb 1900, Scottsboro.

Bouldin, Thomas Jefferson, mc P & S Atlanta 01, cb 01, Hollywood.

Boggess, John Wilson, mc Vanderbilt 92, cb Marshall 93, Woodville.

Callan, Thomas Edward, mc Alabama 94, cb 94, Scottsboro.

Foster, George Whitfield, mc univ Nashville 82, cb 82, Stevenson.

Knowlton, James Wiley, mc univ Vanderbilt 83, cb 83, Paint Rock.

Maples, William Caswell, mc univ Tennessee 81, cb Madison 81, Scottsboro.

McLendon, William LaFayette, mc Alabama 96, cb 96, Hollywood.

Prince, Jesse Lee, mc Alabama 99, cb 99. Caffey's Store.

Rorex, James Polk, mc Alabama 75, cb 82, Scottsboro.

Smith, Eugene Robinett, mc univ Vanderbilt 85, cb 89, Dutton.

Sanders, Walter Constantine, mc Memphis Hospital 91, cb Madison 91, Stevenson.

Total, 13.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Adkins, Charles William, mc Louisville 68, cb 84, Langston.

Bogart, William, mc univ Vanderbilt 1900, cb 1900, Stevenson.

Boyd, Edward, mc Memphis 02, cb 02, Limrock.

Brewer, Joseph M., mc univ Vanderbilt 82, cb 82, Trenton.

Grant, Felix, ng, cb 82, Holly Tree.

Gattis, Henry Franklin, ng, cb 82, Limrock.

Lee, Elisha L., mc univ Vanderbilt 73, cb 82, Bridgeport.

May, ——, mc —, cb —, Langston.

McCord, John Harvey, ng, cb 82, Section.

Reid, James R., mc Alabama 93, cb 93, Estills.

Smith, Barton Brown, Sr., mc Nashville 67, cb 83, Larkinsville.

Spiller, William Kingston, mc Louisville 74, cb 84, Bridgeport.

Stanley, William Henry, mc Vanderbilt 87, cb Lawrence 87, Princeton.

Tate, George T., mc univ Vanderbilt 95, cb Marshall 96, Wainsville.

Zurmehley, Samuel Lutz, mc Miami 90, cb 90, Bridgeport.

Total, 15.

JEFFERSON COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, L. G. Woodson; Vice-President, R. H. Hamrick; Secretary, A. W. Sims; Treasurer, R. V. Mobley; Health Officer, J. M. Mason. Censors—E. H. Sholl, D. F. Talley, L. C. Morris, F. A. Lupton, T. D. Parke.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Abernathy, Jones Cadwalader, mc univ Louisville 59, cb Marengo 78, Birmingham.

Acton, S. W., mc Alabama 60, cb 78, Trussville.

Anderson, Frank Clary, mc univ Vanderbilt 01, cb Calhoun 02, Birmingham.

Auxford, Frank O., mc Atlanta 95, cb Tuscaloosa 95, Blossburg.

Baker. Dicia Houston, mc Women's Memorial Cincinnati 98, cb 99, Birmingham.

Ballard, Elwyn, mc Pulte 02, cb 02, Birmingham.

Bandy, E. C., mc Montezuma 98, cb Bibb 98, Oxmoor

Bankston, Richard Coopender, mc univ Tulane 88, cb 96, Birmingham.

Barclay, John Wyeth, mc Jefferson 69, cb Madison 78, Birmingham.

Bell, Alse Wilson, mc Alabama 97, cb Shelby 97, Woodlawn.

Berry, Robert Alfred, mc Virginia 82, cb 85, Birmingham.

Berry, William Thomson, mc univ Vanderbilt 99, cb 99, Birmingham.

Bickley, Thomas Jefferson, mc univ Vanderbilt 81, cb Sumter 81, Birmingham.

Black, William Fred, mc Vanderbilt 90, cb Morgan 90, Sayreton.

Brown, George Summers, mc Jefferson 85, cb 87, Birmingham.

Brown, George Washington, mc Atlanta 77, cb 78, Pratt City.

Burnum, Henry Clay, mc Phys. and Surg. Baltimore 92, cb Blount 92, Trussville.

Caffee, Samuel Richardson, mc univ Missouri 81, cb Tuscaloosa 81, Avondale.

Carroway, Charles Newton, mc Birmingham 02, cb 02, Pratt City.

Casey, Edgeworth Stephens, mc Birmingham 1900, cb 1900, Birmingham.

Casey, Thaddeus Alonzo, mc Vanderbilt 91, cb Marshall 91, North Birmingham.

Chamblee, Zachariah Britton, mc Birmingham 1900, cb 1900, North Birmingham.

Clark, Nathaniel Guido, mc Birmingham 98, cb 98, Ensley.

Clayton, Benjamin Lawrence, mc univ Virginia 82, cb St. Clair 82, Village Springs.

Cocke, Paul Lee, mc univ Virginia 99, cb 03, Birmingham.
Comer, Robert T., mc Johns Hopkins 01, cb Bullock 01, Birmingham.
Compton, Felix Henry, mc univ Vanderbilt 81, cb Madison 87, Birmingham.
Collins, Milton Homer, mc univ Tennessee 84, cb 84, Birmingham.
Copeland, Benjamin Grigsby, mc Jefferson 83, cb Limestone 83, Birmingham.
Copeland, Miles Axe, mc Birmingham 03, cb 03, Birmingham.
Coston, Hamilton Ralls, mc univ Washington 72, cb 90, Birmingham.
Coulbourne, Joseph Thomas, mc univ Maryland 86, State Board 86, Birmingham.
Cowman, John Pearl, mc Birmingham 03, cb 03, Ensley.
Crigler, Lewis Webb, mc univ Vanderbilt 99, cb 04, Birmingham.
Cunningham, Russell McWhorter, mc Bellevue 79, cb 83, Ensley.
Cunningham, Modie Ezra, mc Birmingham 1900, cb 1900, Ensley.
Dabney, John Davis, mc univ Washington 72, cb 90 Birmingham.
Davidson, Jas. Francis, mc Alabama 87, cb 87, Birmingham.
Davis, John Daniel Sinkler, mc Georgia 79, cb St. Clair 79, Birmingham.
Dedman, James Edwin, mc univ Tennessee 91, cb 98, Birmingham.
Dixon, Duncan P., mc Tulane 01, cb Talladega 01, Thomas.
Donald, T. C., mc Alabama 99, cb --, Bessemer.
Douglass, Albert Gallatin, mc Vanderbilt 81, cb 81, Birmingham.
Due, Malvern Nicholas, mc Phys. & Surg. New York 88, cb Montgomery 88, Birmingham.
Duncan, Joseph Johnston, mc univ Louisville 86, State Board 86, Birmingham.
Duncan, Willlam Percy, mc univ New York 03, cb 03, Birmingham.
Dunlap, Perry Gabriel, mc univ Vanderbilt 81, cb St. Clair 81, Adger.
Edwards, Joseph Henry, mc Birmingham 97, cb 97, Wylam.
Ferrell, James Henry, mc Birmingham 01, cb Calhoun 01, Woodlawn.
Fields, Elbert Tiles, mc univ Bellevue 99, cb 99, Ensley.
Finch, John Henry, mc Phys and Surg Baltimore 86, cb 86, Avondale
Fox, Bertram Arthur, mc Birmingham 96, cb 96, Birmingham.
Fox, Carl Alexander, mc Tulane 00, cb 00, Birmingham.
Gewin, Wm. Christopher, mc univ Maryland 00, cb Lowndes 02, West End.
Glass, Edward Taylor, mc univ Vanderbilt 90, cb 90, Birmingham.
Griggs, Alfred Flournoy, mc Atlanta 95, State Board 00, Birmingham.
Hamrick, Robert Hampton, mc Atlanta 95, cb Blount 96, Pratt City.
Hardin, E. Burke, mc Louisville 96, cb 96, Woodward.

Harkness, Robert Baskin, mc univ Tulane 97, cb Tuscaloosa 97, Birmingham.

Harris, Arthur Buckner, mc univ Virginia 01, cb 03, Birmingham.

Harwell, James Thomas, mc Atlanta Southern 83, cb Cullman 83, Birmingham.

Hayes, Oscar, mc Tulane 03, cb Walker 03, Birmingham.

Heacock, Joseph Davis, mc univ Tulane 92, cb Talladega 92, Birmingham.

Heflin, Howell Towles, mc univ Maryland 93, cb Clay 94, Birmingham.

Heflin, Wyatt, mc Jefferson 84, cb Randolph 85, Birmingham.

Hendon, William Thomas, mc Alabama 97, cb Mobile 97, Ensley.

Hix, Nicholas Flood, mc univ Virginia 1900, cb 1900, Gate City.

Hogan, George Archibald, mc Birmingham 96, cb 96, Bessemer.

Hogan, John Frank, mc Birmingham 03, cb 03, Birmingham.

Hogan, Robert Elias, mc Birmingham 01, cb Bibb 01, Reeders.

Howard, John Wesley, mc Atlanta 91, cb Shelby 91, Irondale.

Jackson, Leonidas Fenton, mc Birmingham 01, cb Fayette 01, Blossburg.

Jenkins, Luckie Andrew, mc Alabama 89, cb Wilcox 89, Brookside.

Jernigan, Charles Henry, mc Jefferson 55, cb Bullock 80, Birmingham.

Johnston, Hardee, mc univ Virginia 95, cb 96, Birmingham.

Jones, Capers Capehart, mc univ Pennsylvania 70, cb Wilcox 79, East Lake.

Jones, Devotie Dennis, mc univ Maryland 72, cb Lowndes 72, Woodlawn.

Jordan, William Mudd, mc Phys. and Surg. New York 95, cb 95, Birmingham.

Killough, James Monroe, mc Kentucky s of m 87, cb 87, Woodlawn.

Lacey, Edward Parish, mc univ Vanderbilt 83, cb Shelby 83, Bessemer.

Latham, Luther Middleton, mc Alabama 92, cb Bibb 92, Ensley.

Lathem, St. Clair Nichols, mc Birmingham 97, cb St. Clair 97, Blossburg.

Ledbetter, Samuel Leonidas, mc Louisville 79, cb 79, Birmingham.

LeGrande, John Clark, mc Atlanta 80, cb 81, Birmingham.

Long, William W., mc Chattanooga 96, cb 03, Birmingham.

Lowrey, John McPherson, mc P & S Baltimore 97, cb 02, Birmingham

Luckie, James Buckner, mc Pennsylvania 55, cb 78, Birmingham.

Lull, Cabot, mc univ Michigan 99, cb Elmore 01, Birmingham.

Lupton, Frank Allemang, mc Johns Hopkins 99, cb 1900, Birmingham.

Martin, Henry Lewis, mc univ Vanderbilt 81, cb Madison 81, Avondale.

Martin, William Gravlee, mc Memphis H M C 93, cb Cullman 95, Adamsville.

Mason, James Monroe, Jr., mc Tulane 97, cb 99, Birmingham.

May, Eugene Elmore, mc univ Nashville 99, cb Lauderdale 01, Birmingham.

May, William Lucius, mc Memphis Hospital M. C. 97, cb Marion 97, Sandusky.

McAdory, Wellington Prude, mc univ Virginia 97, cb 99, Birmingham.

McGlathery, Fountain S., mc Vanderbilt 82, cb Morgan 82, Woodlawn.

McLester, James Somerville, mc univ Virginia 99, cb 02, Birmingham

Meadow, Albert Eli, mc Pulte 83, cb 83, Birmingham.

Miles, Wm. Cowden, mc Birmingham 99, cb Limestone 1900, Village Springs.

Mitchell, Henry Eugene, mc univ Tennessee 93, cb Blount 93, Birmingham.

Mobley, Robert Vernon, mc Alabama 89, cb Clarke 89, Birmingham.

Moore, John Austin, mc Phys. and Surg. Baltimore 85, cb Blount 85, Birmingham.

Morris, Emory Arnold, mc univ Nashville 02, cb Cullman 02, Avondale.

Morris, Lewis Coleman, mc univ Virginia 92, cb 93, Birmingham.

Northington, Eugene G., mc Tulane 03, cb Autauga 03, Birmingham.

Odom, James Ivan, mc Memphis 93, cb Cullman 95, Littleton.

Parke, Thomas Duke, mc univ New York 79, cb Dallas 84, Birmingham.

Peters, Urban Joseph Whitehead, univ Pennsylvania 98, cb 1900, Birmingham.

Pressley, Henry Erskine, mc univ New York 99, cb 99, Birmingham.

Prince, Francis Marion, mc Jefferson 49, cb 78, Bessemer.

Pugh, Frank Slade, mc Birmingham 01, State Board 01, Brookside.

Purifoy, Seabern William, mc Kentucky S of M 94, cb Tuscaloosa 94, Birmingham.

Ransom, William Walter, mc univ Vanderbilt 88, cb 88, Birmingham.

Reeves, Philip Ulmer, mc univ Georgia 01, cb Walker 02, Warner Mines.

Reynolds, Frederick Knox, mc Birmingham 01, cb 01, Birmingham.

Richardson, Wm. Weise, mc Chicago 90, cb 01, Bessemer.

Riggs, Edward Powell, mc Phys. and Surg. Baltimore 81, cb Dallas 81, Birmingham.

Robertson, Thaddeus Lindley, mc Jefferson 61, cb Calhoun 81, Birmingham.

Robbins, Jesse Elbert, mc Atlanta 86, cb 86, Ensley.

Robinson, Elisha Milton, mc univ Tulane 85, cb Blount 86, Birmingham.

Robinson, Thomas Franklin, mc univ Nashville 80, cb Blount 80, Bessemer.

Robson, Henry Polk, mc Birmingham 03, cb Etowah 03, Birmingham.

Rogers, Mack, mc Alabama 89, cb Conecuh 89, Birmingham.

Rosamond, Ethbirt Cole, mc Louisville 93, cb Walker 93, North Birmingham.

Rosamond, Wm. Lucius, mc Kentucky s of m 91, cb Walker 91, Ensley.

Rosser, Henry Nollner, mc Atlanta 69, cb Dallas 79, Birmingham.

Rountree, Walter Scott, mc Birmingham 1900, cb Morgan 1900, Wylam.

Schoolar. Milton Carson, mc Alabama 87, cb Bibb 87, West End.

Seay, James Elias, mc univ Bellevue 99, cb Lamar 99, Pratt City.

Seay, Mark Rollins, old law 79, cb Lamar, 86, Blossburg.

Sellers, Henry Graham, mc univ Vanderbilt 00, cb Morgan 00, West End.

Sellers, Jra Jackson, mc univ Vanderbilt 97, cb 97, Birmingham.

Sholl, Edward Henry, mc Pennsylvania 56, cb Sumter 78, Birmingham.

Shropshire, Courtney William, mc univ Tennessee 01, cb Limestone 03, Birmingham.

Sibley, Barney Dunbar, mc Birmingham 98, cb Walker 99, Birmingham.

Sims, Archie Woodward, mc Birmingham 01, cb 01, Birmingham.

Snyder, Jacob Roscoe, mc univ Vanderbilt 01, cb 02, Birmingham.

Stansberry, Charles Lee, mc Grant univ 99, cb Fayette 01, Bessemer.

Steves, Henry Fordyce, ng State Board 87, Gate City.

Stubbs, George Hamilton, mc Atlanta Southern 95, cb 97, Birmingham.

Talley, Dyer Findley, mc univ Tulane 92, cb 92, Birmingham.

Thagard, Robert Albert, mc Tulane 97, cb Butler 97, Birmingham.

Toole, Arthur Fulkerson, mc univ Virginia 00, cb 03. Birmingham.

Torrance, Gaston, univ Virginia 97, cb 1900, Birmingham.

Waldrop, R. W., mc Louisville 96, cb 97, Bessemer.

Waldrop, William, mc Memphis 99, State Board 99, Woodward.

Walton, Frank, mc univ Vanderbilt 99, State Board 99, Blossburg.

Ward, Henry Silas, mc univ Nashville 98, cb Blount 99, Birmingham.

Ward, John Hester, mc univ South 99, cb Tuscaloosa 00, Johns.

Ward, Walter Rowland, mc Chattanooga 00, cb Tuscaloosa 00, Birmingham.

Whaley, Lewis, mc Atlanta 73, cb Blount 78, Birmingham.

Whelan, Charles, mc Alabama 96, cb 96, Birmingham.

Whitfield, Oscar, mc Vanderbilt 81, cb Bibb 81, Birmingham.

Wilder, William Hinton, mc univ New York 91, cb 91, Birmingham.

Wiley, Edwin A., mc univ Northwestern 01, cb 03, Bessemer.

Winters, Joseph Schofield, mc Louisville 90, cb 90, Bessemer.

Wilson, Cunningham, mc univ Pennsylvania 84, cb 84, Birmingham.

Wood, Winston Cass, mc Atlanta 81, cb 81, Bessemer.

Woodson, Lewis Greene, mc univ Maryland 86, cb 88, Birmingham.

Worcester, John Locke, mc Birmingham 1900, cb 1900, Birmingham.

Wyman, Ben'amin Leondas, mc univ New York 79, cb Tuscaloosa 82, Birmingham.

Wynne, William Hall, mc Birmingham 97, cb Marengo 97, Ensley.

Yates, Carlyle Keyser, mc Baltimore 1900, cb Dallas 1900, Birmingham.

Total, 164.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Acton, William Henser, mc univ Vanderbilt 88, cb Lauderdale 88, Leeds.

Aldridge, Jonas W. (col.), mc Meharry 02, cb Etowah 99, Bessemer.

Attaway, William Alexander (col.) mc Meharry 02, cb Etowah 03, Birmingham.

Ball, John Calhoun, mc Atlanta 59, cb Calhoun 87, Avondale.

Ballard, Asa Nathaniel, mc Pulte (Homeopathic) 76, cb DeKalb 86, Birmingham.

Barrett, Nathaniel Aldridge, mc univ Vanderbilt 86, cb Lauderdale 86, East Lake.

Barnett, Thomas Meriwether, mc univ Vanderbilt 99, cb Chilton 99, Birmingham.

Berry, James Crawford, mc S. Carolina 95, cb 95, Bessemer.

Benton, John M., mc univ Maryland 90, cb 97, Birmingham.

Brandon, Thomas H. (col.) mc univ Denver 98, cb Madison 00, Birmingham.

Brown, Arthur McKinnon (col.) mc univ Michigan 91, cb 91, Birmingham.

Byars, Henry Hayden, mc Kentucky s of m 92, cb Perry 92, Warrior.

Callen, William Russell, mc Tulane 03, cb 03, Birmingham.

Carter, James Watson, mc univ Nashville 74, cb Limestone 78, Bessemer.

Chambers, John G., mc univ Nashville 98, cb Blount 98, Woodlawn.
Chisolm, R. P., mc Alabama 99, cb —, Bessemer.
Cocciola, Luigi, mc Naples, Italy 83, cb Cullman 1900, Birmingham.
Coleman, William Henry (col.) mc Meharry 00, cb Limestone 01, Birmingham.
Cooper, Wm. Dudley, mc Jefferson 69, cb Lee 82, Birmingham.
Councill, W. L. C. (col.), mc Meharry —, cb 99, Birmingham.
Clapp, Wm. Wesley, mc Cleveland (Homeopathic) 90, cb DeKalb 90, Birmingham.
Collins, James Alexander, mc univ Louisville 91, cb Cullman 91, Warrior.
Crane, A. F., mc —— —, cb —, Birmingham.
Cruikshank, Robert, (col) mc univ Howard 94, State Board 97, Birmingham.
Downing, James H., mc Memphis H M C 96, cb Lamar 97, Bessemer.
Dozier, Byron T., mc Barnes (St. Louis) 97, cb Elmore 1900, Birmingham.
Dozier, Oliver Thomas, mc Atlanta 74, cb 97, Birmingham.
Drennen, Charles, mc Alabama 72, cb Blount 72, Birmingham.
Drennen, Daniel Edward, mc Alabama 94, cb 94, Birmingham.
Edwards, Robert Smith, mc Atlanta 71, cb 78, Trussville.
Elsberry, John Payne, mc univ Virginia 60, cb Montgomery 84, Powderly.
Ellis, George Washington, ng, cb 78, Birmingham.
Farley, Andrew Jackson, mc Atlanta 90, cb Shelby 90, Leeds.
Glasgow, R. S., mc ——, cb —, Blossburg.
Goin, Logwood Ulysses, (col.) mc Meharry 99, State Board 99, Birmingham.
Goin, John Burt (col.) mc Meharry 90, cb 90, Birmingham.
Grace, Frank Gaines, mc univ New York 02, cb 03, Hillman.
Grout, Samuel Eugene, mc univ Minnesota 99, cb 01, Bessemer.
Green, Robert Smith, mc Atlanta 60, cb 78, Greene's Station.
Hagler, Prewitt LaFayette, mc Alabama 91, cb Tuscaloosa 91, Birmingham.
Hancock, James Francis, mc Louisville 88, cb Walker 88, Toadvine.
Hausman, Frank, mc Alabama 93, cb Tuscaloosa 93, Warrior.
Hawkins, Elijah Alexis, mc Atlanta Southern 88, cb Walker 89, Partridge.
Hayes, Wm. Isaac, mc Atlanta Southern 85, cb Walker —, Powderly.
Heddleston, James L., mc South Carolina 55, cb Hale 87, Woodlawn.
Hill, Chas. Lowery, mc univ Tennessee 88, cb 88, Elliott.
Holloway, Young Edwin, mc Miami Ohio 72, cb Cullman 85, Birmingham.
Hood, W. A., ——— —, cb —, Clough.

Huey, J. Fred mc ——— —, cb —, Blossburg.

Hundley, J. T. (col.), mc ——— —, cb —, Birmingham.

Jackson, Robert Dandridge, mc South Caroilna 51, cb Dallas 78, Woodlawn.

Jones, John Columbus, mc Tulane 85, cb 88, Johns.

Jones, Thomas A., mc Birmingham 98, cb Lauderdale —, East Lake.

Jones, Robert Arthur, mc Louisville 86, cb 86, Birmingham.

Kinnette, Jackson Flavius, mc Georgia Eclectic 92, cb Shelby 92, Brighton.

Knight, J. B., mc ——— —, cb —, Ezra.

Lawson, David Middleton, mc Louisville H 99, cb 02, Birmingham.

Lewis, Francis Porcher, mc South Carolina 76, cb 80, Coalburg.

Lewis, George Roland, mc Nashville 89, cb Limestone 89, Bessemer.

Lewis, James Marshall, mc univ Vanderbilt 87, cb 88, Birmingham.

Love, William Jones, mc Alabama 93, cb Morgan 93, Mt. Pinson.

Mason, Ulyses G. (col.), mc Meharry 95, cb 95, Birmingham.

Masterson, Wm. Thomas, mc Louisville 90, (old law), Birmingham.

Maxwell, Walter John, mc univ South 01, cb Tuscaloosa 02, Littleton.

May, Frank H., mc univ of South 99, cb Marion 99, Birmingham.

Means, George Evins, mc univ Tulane 89, cb 94, Bessemer.

Mitchell, Robert Lee, mc Chattanooga 94, cb Cullman 95, Warrior.

Montgomery, Oscar Hayden, mc Birmingham 03, cb 03, East Birmingham.

Naff, John Mortimer, mc univ Vanderbilt 85, cb 85, Birmingham.

Norton, H. F., mc ——— —, cb —, Leeds.

Oates, David Dunlap, mc univ Pennsylvania 60, cb Blount 79, Merkel.

Oliver, Wm. Marmaduke, mc Alabama 72, cb 78, Jonesboro.

Owen, William Marmaduke, (Old Law), cb 87, Jonesboro.

Oliver, Hillary F., mc univ Pennsylvania 59, cb Butler 81, Altoona.

Perry, Samuel Miller, mc Vanderbilt 94, cb Tuscaloosa 94, Ensley.

Pope, C. M., mc ——— —, cb —, Henry Ellen.

Pruitt, Eber Austin, mc Alabama 1900, cb Calhoun 1900, Hillman.

Ragsdale, Milton C., mc Georgia 78, cb 78, McCalla.

Roberts, Martin, Old Law ng, cb 80, Warrior.

Robinson, Jasper Bennett, mc univ Vanderbilt 69, cb St. Clair 78, Woodlawn.

Roper, Wm. Elliott, mc univ Louisville 83, cb Shelby 88, Belle Sumter.

Rittenberry, Baxter, mc Birmingham 99, cb St. Clair 99, Birmingham.

Rittenberry, Crockett Campbell, mc Birmingham 01, cb 01, Birmingham.

Russell, Ralph Morgan, mc Bellevue 88, cb Etowah 89, Birmingham.

Sanders, Andrew J., mc univ Tennessee 94, cb Chambers 94, Henry Ellen.

Sharp, G. B., mc —, cb —, Blossburg.

Sheppard, Louis Watson, mc Phys. and Surg. Baltimore 85, cb St. Clair 89, Bessemer.

Simpson, Frank S. (col.) mc Leonard 02, cb Russell 02, Ensley.

Sims, J. H., mc —, cb —, Birmingham.

Smith, Robert Lee, mc Louisville 91, cb —, Toadvine.

Spencer, Lucian Allen, mc Miami (O.) 85, cb 85, Bessemer.

Springfield, T. J., mc —, cb —, Ensley.

Stagg, John Bell, mc univ Vanderbilt 85, cb Walker 85, Pratt City.

Statum, Job Nelson, mc Atlanta Southern 88, cb 88, Blossburg.

Stone, J. T., mc — —, cb — —, Sandusky.

Sugg, Thomas Lealand, mc Louisville 87, cb Lauderdale 89, Ensley.

Sutton, Frederick B., mc univ Michigan 81, cb Cullman 02, Birmingham.

Trainer, Edward W., ng, —, cb Marshall 85, Pratt City.

Tubbs, James, mc Memphis 94, cb Walker 94, Bessemer.

Vines, J. B., mc ——— —, cb —, Short Creek.

Walker, Charles Robert, mc Vanderbilt 98, cb Etowah 01, Ensley.

Waller, George DeLoach, mc univ Vanderbilt 99, cb Bibb 99, Bessemer.

Watts, Anti Costa, mc Louisville 92, cb Winston 00, Lewisburg.

Welburn, Mitchell Dock (col.) mc Meharry 01, cb 01, Pratt City.

Wikle, Luther Lafayette, mc univ Tennessee 88, cb 88, Village Springs.

Whissenant, Lewis D., ng, cb 78, Morris.

Wilkerson, Geo. H., (col.), mc Meharry 97, cb 97, Birmingham.

Williams, Zack W. mc P & S New York 82, cb Russell —, Birmingham.

Woltman, Frederick, mc Hahnneman (Chicago) 02, State Board 02, Birmingham.

Total, 109.

Moved into the county—L. W. Crigler, from Mississippi to Birmingham; Paul Lee Cocke, from New York to Birmingham; A. B. Harris, from West Virginia to Birmingham; M|. R. Seay, from Fayette county to Blossburg; A. F. Toole, from New York to Birmingham; J. H. Ward, from Tuscaloosa county to Johns; W. R. Ward, from Tuscaloosa county to Birmingham; A. M. Brown (col.), from Chicago to Birmingham; F. C. Anderson, from Ironaton to Birmingham.

Moved out of the county—J. D. Gibson, from Birmingham to Boulder, Colo.; Edgar A. Jones, from Birmingham to Raton, N.

M.; W. L. Nichols, from New Castle to Baltimore; W. E. Richards, from Birmingham to Columbus, Miss.; J. H. Blanks, from Birmingham to Zion City, Ill.

Examinations—Certificates granted: William Walker Long, mc Chattanooga 96; Wheeler Wilkinson Compton, mc univ Vanderbilt 03; James Robertson Dawson, mc univ Vanderbilt 03; William Evans Richards, mc Jefferson 95; John Frank Hogan, mc Birmingham 03; Miles Axe Copeland, mc Birmingham 03; William Johnson Calloway, mc Birmingham 03; Frank Campbell Smith, mc Birmingham 03; James Alfred Bagley, mc Birmingham 03; Emanuel Oscar Stuckey, mc univ Nashville 03; Frank Edmundson Nabers, mc univ Virginia 03; James Alexander Watson, mc Birmingham 03; William Percy Duncan, mc univ Northwestern 03; †Oscar Hayden Montgomery, mc Birmingham 03; William Russell Callen, mc univ Tulane 03; John Pearl Cowman, mc Birmingham 03; Paul Lee Cocks, mc univ Virginia 99; Archie L. Oberdorfer, mc univ Virginia 01; Arthur Buckner Harris, mc univ Virginia 02; Rufus Gaston, mc univ Arkansas 97; Lewis Webb Crigler, mc univ Vanderbilt 99. Certificates refused: Joseph Griffin Waldrop, mc Memphis Hospital 01; *Richard Wilmer Hawkins, mc Birmingham 03; *Oscar Hayden Montgomery, mc Birmingham 03; †Richard Wilmer Hawkins, mc Birmingham 03; Robert Fraser Ashworth, mc Louisville Hospital 03.

Deaths—Albert Thomas Henley, nephritis; Charles Richard Sexton, pneumonia.

LAMAR COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President—B. E. Turner; Vice-President; T. B. Woods; Secretary and Treasurer, R. H. Redden; Health Officer, W. A. Seay. Censors—R. J. Redden, R. H. Redden, T. B. Woods, J. C. Buckelew, B. E. Turner.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Buckelew, Judge Crayton, mc univ Grant 98, cb 98, Sulligent.
Burns, George Caruthers, mc Ill. Health univ. 96, cb 78, Vernon.
Collins, Francis Alexander, mc Memphis Hospital 92, cb 92, Crews.
Hollis, Daniel Dixie, mc Phys. and Surg. Baltimore 84, cb 84, Sulligent.
Kennedy, John Oscar, mc Alabama 82, cb 82, Kennedy.

*Was granted second examination on technicality. †Second examination.

Morton, William Locke, mc univ Tulane 73, cb —, Vernon.
Redden, Robert James, mc Baltimore 77, cb 77, Sulligent.
Redden, Raymond Hollis, mc Memphis Hospital 01, cb 01, Sulligent.
Turner, Berry Eddley, mc Memphis Hospital 97, cb 97, Richards.
Woods, Thomas Bailey, mc univ Louisville 73, cb Fayette —, Bell.
Vaughan, George Washington, mc Alabama 88, cb Marion 88, Wofford
Total, 11.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Barksdale, James Ira, mc Vanderbilt 72, cb Tuscaloosa 86, Fernbank.
Black, W. A., mc — —, cb —, Kennedy.
Blakeney, Lewis Columbus, mc Alabama 73, cb 77, Millport.
Box, Daniel William, mc Alabama 85, cb 85, Vernon.
Branyon, Arthur C., mc Memphis 03, cb —, Kingville.
Buckelew, Ansel Milburn, mc univ Louisville 70, cb Calhoun 86, Sulligent.
Collier, Scott, ng, cb 77, Pharos.
Collins, George Jackson., mc Alabama 74, cb Fayette 84, Millport.
Collins, Alando, mc Memphis Hospital 02, cb —, Kennedy.
Total, 9.

Moved out of the county—Flint Hodges Morton, from Vernon to Decatur, Morgan county; M. C. Smothers, from —— to Fayette county.

Examinations—B. B. Mitchell, mc Meharry 03, certificate granted; Arthur C. Branyon, mc Memphis 03, certificate granted; Robert H. Miller mc Grant 02, certificate refused; Tilden H. Young, mc Tulane 03, certificate granted; Robert E. L. Smothers, mc Alabama 97, certificate granted.

LAUDERDALE COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, W. M. Price; Vice-President, J. A. Pate; Secretary and Treasurer, J. M. Peerson; Health Officer, J. M. Peerson. Censors—C. W. Watson, W. J. Kernochan, L. W. Desprez, E. C. Lindsay, P. I. Price.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Arnold, Leonard Warring, mc Ohio 77, cb 87, Florence.
Belew, John Columbus, ng, cb 90, Rogersville.
Boyd, Philander S., mc univ Tennessee 88, cb 97, Florence.
Carroll, George W., mc univ Kentucky 67, cb 99, Smithsonia.
Calloway, William Johnson, mc Birmingham 03, cb Jefferson 03, Florence.

Desprez, Lewis W., mc Alabama 71, cb Franklin 88, Florence
Duckett, Levi F., mc univ Tennesseee 92, cb 02, Florence.
Estes, David Gilbert, mc univ Tennessee 01, cb Limestone 01, Centre Star.
Kernochan, William Jones, mc univ Vanderbilt 79, cb 88, Florence.
Kennedy, Hiram Raleigh, mc univ Louisville 79, cb 81, Green Hill.
Lindsey, Eugene C., mc univ Vanderbilt 95, cb Limestone 01, Florence.
Moody, Henry Altamont, mc univ Louisville 65, cb 87, Florence.
Pate, Jesse Americus, mc univ Louisville 70, cb 87, Rogersville.
Paulk, Samuel D., mc univ Vanderbilt 88, cb 88, Cloverdale.
Peerson, James M., mc univ Vanderbilt 91, cb 91, Florence.
Powers, Alexander Hamilton, mc Louisville 71, cb 95, Waterloo.
Price, William Mason, mc univ Nashville 64, cb 87, Florence.
Price, Percy Isaac, mc univ Vanderbilt 86, cb 87, Florence.
Stutts, Henry Lee, mc Alabama 1900, cb 01, Green Hill.
Watson, Charles McAlpine, mc univ Louisiana 81, cb Greene 81, Florence.
Williams, George, mc —, cb —, Centre Star.
Zimmerman, Albert S., mc univ of the South 98, cb Lawrence 99, Kingman.
Total, 22.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bramlett, William M., mc univ Nashville 80, cb 87, Florence.
Edwards, John W., mc Louisville 69, cb Lawrence 79, Florence.
Henderson, A. H., mc univ Nashville 76, cb 87, Florence.
Jones, Archie, mc Meharry 97, cb Madison 97, Florence.
Lee, John W., mc — —, cb —, Waterloo.
Morris, J. C., mc —— —, cb —— —, Cypress Inn, Tenn.
Pitt, James T. (retired), Florence.
Smith, A. H., mc —, cb —, Lexington.
Weaver, L. A., mc — —, cb —, Rogersville.

Moved out of the county—B. J. Duckett, from Florence to Sheffield, Colbert county.

LAWRENCE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, C. S. Chenault; Vice-President, J. W. Fennell; Secretary and Treasurer, J. T. Masterson; Health Officer, W. J. McMahon. Censors—H. B. Burkett, J. R. Howell, J. W. Fennell, T. H. Irwin, F. D. Gibson.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Burt, T. G., mc Alabama 02, cb 02, Courtland.
Burkett, Henry Bascomb, mc Phys. and Surg. New York 78, cb 78, Hillsboro.
Chenault, Charles Sidney, mc Birmingham 97, cb 97, Mt. Hope.
Etheredge, Benjamin Franklin, mc Memphis Hospital 86, cb 86, Town Creek.
Fennell, Isham Watkins, mc Nashville 67, cb Limestone 78, Courtland.
Fennell, James Watkins, mc Birmingham 01, cb Jefferson 01. Landersville.
Gibson, Frank Demetrius, mc univ Nashville 90, cb 92, Moulton.
Greer, William Henry, mc Grant 1900, cb Cleburne 1900, Courtland.
Howell, John Robert, mc Memphis Hospital 88, cb 94, Hatton.
Irwin, Thomas Howard, mc Vanderbilt 1900, cb 1900, Moulton.
Masterson, John Thomas, mc m and s Pennsylvania cb 78, Moulton.
McMahon, Wm. Jack, mc Long Island 60, New Orleans 61, cb Madison 78, Courtland.
Simms, Edgar Thomas, mc Pennsylvania 69, cb 78, Hillsboro.
Total, 13.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Burnett, J. D., mc —— —, cb —— —, Gum Pond.
Bailey, A., mc —— —, cb —— —, Jesseton.
Clark, —, mc — —, cb —, Town Creek.
Nance, J. W., mc Baltimore 94, cb —, Mt. Hope.
Young, J. T., mc —— —, cb —— —, Oakville.
Total, 5.

Moved into the county—T. G. Burt, from — to Courtland.

Died—L. W. Houston, Town Creek.

LEE COUNTY MEDICAL SOCIETY—Huntsville, 1880.

OFFICERS.

President, A. H. Read; Vice-President, H. S. Bruce; Secretary and Treasurer, J. P. Watkins; Health Officer, I. N. Stowe. Censors—A. H. Read, A. B. Bennett, J. G. Palmer, I. N. Stowe, J. P. Watkins.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bennett, Abijah B., mc Phys. and Surg. Baltimore 81, cb 81, Opelika.
Bedell, Robert Bruce, mc South Carolina 54, cb 81, Auburn.
Bruce, Homer S., mc Atlanta 91, cb Chambers 91, Opelika.

Drake, John Hodges, Sr., mc Atlanta 67, cb 81, Auburn.
Foreman, Arthur Levi, mc Jefferson 69, cb 81, Auburn.
Howe, Robert Daniel, mc univ Tennessee 90, cb Walker 91, Auburn.
Love, William Joseph, mc Atlanta 82, cb 85, Opelika.
McLain, Andrew Demetrius, mc Alabama 01, cb Chambers 01, Salem.
Palmer, Jesse Gary, mc Phys. and Surg. Baltimore 84, cb Chambers 84, Opelika.
Read, Andrew Hamil, mc Georgia 58, cb Chambers 81, Opelika.
Reynolds, Petit, mc Alabama 97, cb Macon 97, Auburn.
Steadham, Oliver Marshall, mc Chattanooga 94, cb Clay 87, Auburn.
Stowe, Isaac Noel, mc Georgia Eclectic 93, cb 95, Opelika.
Stough, Marvin Simeon, mc. Phys. and Surg. Atlanta 99, State Board 99, Phenix.
Watkins, Warren B., mc Bellevue 97, cb 98, Opelika.
Watkins, James Preston, mc Phys. and Surg. Baltimore 97, cb 97, Opelika.
Weedon, Walter R., mc Kentucky S of M 94, cb Barbour 94, Opelika.
Wheelis, Wade Kinney, mc univ Louisville 85, cb 85, Beulah.
Yarbrough, Charles Sydney, mc Atlanta 97, cb 97, Beulah.
Total, 19.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bullard, C. C., mc Georgia Eclectic 91, cb —, Opelika.
Floyd, Ashby, mc univ Louisiana 89, cb 95, Phenix.
Hanson, William Calvin, mc Atlanta 89, cb Russell 89, Roxana.
Watkins, R. W., mc —— —, cb —— —, Phenix.
Total, 4.

Moved into the county—Homer S. Bruce, from Camp Hill, Tallapoosa county, to Opelika; William Joseph Love, from LaFayette, Chambers county, to Opelika.

Died—John Marion Watkins, Opelika.

LIMESTONE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, T. C. Jones; Vice-President, ———; Secretary and Treasurer, W. O. Sowell; Health Officer, J. S. Crutcher. Censors —T. C. Jones, W. J. Hagan, S. E. York, J. S. Crutcher, J. R. Hoffman.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES

Crutcher, John Sims, mc univ Vanderbilt 89, cb 89, Athens.
Darby, Henry Alonza, mc Birmingham 01, cb Clay 01, Shoal Ford.
Hagan, William James, mc Jefferson 84, cb 84, Athens.

Hoffman, John Crittenden, mc Jefferson 58, cb 78, Athens.
Jones, Thomas Crittenden, mc univ Louisville 76, cb Lawrence 88, Athens.
Pettus, Joseph Albert, mc univ Nashville 67, cb 77, Elkmont.
Pettus, Benton Sanders, mc univ Vanderbilt 92, cb 92, Pettusville.
Sowell, W. O., ng, cb 78, Athens.
York, Seaborn Edward, mc univ Louisville 78, cb 84, Athens.
Total, 9.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Cain, John J., mc —— —, cb Lawrence —, Mooresville.
Hill, Henry Willis, mc univ New York 49, cb 77, Mooresville.
Hill, James W., mc univ Vanderbilt 84, cb 84, Mooresville.
Kyle, William Bailey, mc Alabama 89, cb 89, Lentzville.
Rankin, James Coffield Mitchell, mc Nashville 58, cb 78 Bells Mina.
Wallace, Nicholas B., mc St. Louis Phys and Surg 99, cb 01, Pettey.
Westmoreland, Theophilus, mc univ Vanderbilt 56, cb 79, Athens.
Wilkinson, Milton Roil, mc univ Nashville 68, cb 78, Westmoreland.
Williams, George Allen, mc univ Nashville 80, cb 81, Elkmont.
Wilson, Felix Grundy, mc univ Nashville 65, cb 76, Elkmont.
Total, 10.

Moved out of the county—W. R. Rankin, from Athens to Montgomery.

Died—W. J. Dupree, Westmoreland; apoplexy.

LOWNDES COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, C. E. Marlette; Vice-President, N. G. James; Secretary and Treasurer, K. W. Harrison; Health Officer, N. G. James. Censors—N. G. James, M. H. Hagood, C. E. Marlette, F. Shackleford, W. P. Russell.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bruner, Oliver Glenn, mc Alabama 89, cb 84, Ft. Deposit.
Buford, William Lewis, mc —— —, cb 78, Hayneville.
Carr, George Washington Lafayette, mc Pennsylvania 55, cb 78, Ft. Deposit.
Cilley, Phillip Noble, mc Louisville 48, cb 78, Lowndesboro.
Coleman, Aurelius Daniel, mc Alabama 80, cb 80, Mt. Willing.
Crum, William Barton, mc Alabama 88, cb 88, Ft. Deposit.
Gordon, Samuel A., mc Alabama 95, cb 95, Collerine.
Harrison, King W., mc Alabama 96, cb 97, Lowndesboro.

Hagood, Middleton Howard, mc Alabama 98, cb 98, Mt. Willing.
James, Norman Gilchrist, mc Alabama 98, cb 98, Hayneville.
Kimbrough, John Henry, mc Memphis 94, cb Wilcox 94, Lowndesboro
Marlette, Cyrus Edmund, mc Louisville 80, cb 91, Hayneville.
Powell, Clifton Woodruff, mc Alabama 91, cb 94, Letohatchie.
Powell, George Norman, mc Alabama 96, cb 97, Davenport
Powell, Charles William, mc Alabama 90, cb 90, Lowndesboro
Quillian, T. L., mc ——— —, cb —, Ft. Deposit.
Russell, William Payne, mc Atlanta 91, cb 91, Hayneville.
Sellers, Joel Carter, mc Vanderbilt 94, cb Crenshaw 94, Farmersville.
Shackelford, Frank, mc Alabama 98, cb 98, Letohatchie.
Snow, Cahrles Henry Clay, mc univ Tenn. 83, cb 86, Braggs.
Weatherly, Charles Talliferro, mc Atlanta 74, cb 85, Benton.
Weaver, William Calvin, mc univ Tennessee 83, cb 83, Ft. Deposit.
Winnemore, Samuel Eggleston, mc New York 56, cb 78, Benton.

Total, 23.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Clements, Henry Clay, mc Alabama 99, cb Autauga 99, Benton.
Moorer, Walter, mc — —, cb —, Braggs.

Total, 2.

Moved into the county—John Henry Kimbrough, from Etowah county to Lowndesboro.

Moved out of the county—M. W. Strickland, from Braggs to Opp, Covington county; A. J. Hall, from Judges Siding to McKenzie, Butler county.

Examination—William O. Chitwood, mc univ of the South, certificate granted.

Deaths—Charles Edwin Reese, Lowndesboro; Samuel Thomas McQueen, Fort Deposit.

MACON COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, W. S. Ward; Vice-President, J. T. May; Secretary and Treasurer, P. M. Lightfoot; Health Officer, F. M. Johnston. Censors—L. W. Johnston, J. S. Lightfoot, J. B. Letcher, P. M. Lightfoot, F. M. Letcher.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Drakeford, John Ernest, mc univ Louisville 92, cb 92, Downs.
Johnston, Louis William, mc Alabama 81, cb 89, Tuskegee
Johnston, Frank Means, mc univ of the South 01, cb 01, Tuskegee.

Letcher, Francis Marion, mc univ Louisiana 61, cb 79, Shorters.
Letcher, Joseph Bozeman, mc Tulane 97, cb 98, Shorters.
Lightfoot, John Steele, mc univ Nashville 68, cb 78, Cross Keys.
Lightfoot, Philip Malcolm, mc Alabama 1900, cb 1900, Cross Keys
May, John Thomas, mc Alabama 91, cb 91, Notasulga.
Smith, Milton McGrath, mc univ Louisville 91, cb Jefferson 91, Tuskegee.
Ward, William Solomon, mc Atlanta Southern 90, cb Chambers 95, Notasulga.
Total, 10.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Aikens, John Calhoun, mc Graffenburg, 46, cb Tallapoosa 78, Notasulga.
Gautier, William James, mc univ Pennsylvania 50, cb 79, Tuskegee.
Kenney, John (col.), mc Raleigh 01, cb 02, Tuskegee.
Magruder, William Perry, mc Atlanta 90, cb 90, Tuskegee.
Wood, George Pierce, mc Memphis Hospital 90, cb 90, Tuskegee.
Total, 5.

Moved into the county—W. L. Mullin, from Houston county to Society Hill.

Moved out of the county—Cecil Sentelle Yarbrough, from Society Hill to LaFayette, Chambers county.

Examination—Carney G. Laslie, mc Baltimore Phys. & Surg., certificate granted.

MADISON COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, T. E. Dryer; Vice-President, E. Rand; Secretary and Treasurer, T. L. Mastin; Health Officer, W. C. Wheeler. Censors—F. E. Baldridge, T. E. Dryer, S. H. Lowry, E. O. Williamson, W. C. Wheeler.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Allen, Alfred Sidney, mc Alabama 81, cb Tuscaloosa 88, New Market.
Baldridge, Felix Edgar, mc univ Tulane 94, cb 95, Huntsville.
Boyd, Edgar, mc Memphis 02, cb Jackson 02, New Market.
Brook, Osceola Judkins, mc univ Tulane 93, cb Elmore 93, Huntsville.
Burke, James Pickens, mc univ Pennsylvania 53, cb 78, Meridianville.

Burman, James Fulton, mc Nashville 99, cb 99, Madison.
Blanton, Charles Edgar, mc univ Vanderbilt 82, cb 82, New Market.
Darwin, James Lanier, mc Bellevue 88, cb 90, Huntsville.
Dryer, Thomas Edmund, mc Alabama 86, cb Macon 86, Huntsville.
Esslinger, L. P., mc Alabama 03, cb Chambers 03, New Market.
Fletcher, Richard Matthew, Sr., mc univ Pennsylvania 54, cb 78, Madison.
Graham, Benjamin Emmett, mc univ of the South, Sewanee, 94, cb Jackson 94, Gurley.
Haden, William Wright, mc univ Vanderbilt 90, cb 92, Huntsville.
Hall, Benton McMillan, mc univ Tulane 1900, State Board 1900, Huntsville.
Hampton, John P., mc — —, cb 78, Meridianville.
Howard, I. W., mc Memphis —, cb —, Maysville.
Lowry, Samuel Hickman, mc Bellevue 73, cb 78, Huntsville.
Mastin, Theodore Lacey, mc univ Pennsylvania 02, cb 02, Huntsville.
McDonnell, Henry, mc univ Louisiana 68, cb 78, Huntsville.
Moorman, M. R., mc univ of the South 01, cb 01, Huntsville.
Pettus, Claude, mc univ Vanderbilt 96, cb Limestone 96, Monrovia.
Pettus, William David, mc univ Vanderbilt 68, cb 78, Rep.
Pride, William T., mc Tulane 95, cb 95, Madison.
Rand, Edgar, mc Alabama 78, cb Lawrence 78, Huntsville.
Westmoreland, Hawkins D., mc univ Vanderbilt 92, cb Limestone 93, Huntsville.
Wheeler, William Camp, mc Bellevue 62, cb Colbert 81, Huntsville.
Williamson, Edwin Oliver, mc Chattanooga 98, cb 98, Gurley.
Total, 27.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Buchanan, Roy M., mc univ Tennessee 99, cb 1900, Triana.
Burwell, Edward D., mc S of M Kentucky 78, cb 78, Huntsville.
Carpenter, James Allen, mc Alabama 96, cb 96, New Hope.
Cochran, Robert Ξ. , (Botanic), mc univ Boston 85, cb Mobile 85, Huntsville.
Farley, John Benton, mc univ Vanderbilt 86, cb 86, Farley.
Flint, James C., mc univ Louisville 78, cb 78, Gurley.
Hatcher, Archie W., mc ——— —, cb 82, West Huntsville.
Hensley, William Thomas, mc univ Nashville 78, cb 78, Huntsville.
Hurtzler, John, (Homeopath) mc univ Nashville 78, cb 82, Madison.
Hinds, Byron William, mc univ Nashville 66, cb 78, New Hope.
Johnson Henry Raymond, mc Vanderbilt 87, cb Marshal 87, New Hope.
Scruggs, Burgess E. (col.), mc univ Nashville 70, cb 79, Huntsville.

Shelby, Anthony B., mc ——— —, cb 78, Huntsville.
Total, 13.

Moved into the county—Edgar Boyd, from Jackson county to New Market; L. P. Esslinger, from Chambers county to New Market.

Moved out of the county—Thomas C. Burke, to Courtland, Lawrence county; J. J. Horton, to Elora, Tenn.; Louis Edelman, to Mobile.

Examinations—T. H. Wilkin (col.), mc Meharry, certificate granted; John B. Lawler, mc Vanderbilt 04, certificate granted.

Died—J. M. Clopton, mercury.

MARENGO COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, A. P. McArthur; Vice-President, W. C. Lockhart; Secretary, O. L. Shivers; Treasurer, J. B. Whitefield; Health Officer, W. L. Kimbrough. Censors—W. L. Kimbrough, S. P. Hand, A. P. McArthur, I. G. Wilson, W. C. Lockhart.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Christopher, John Childs, mc Louisville 94, cb Choctaw 94, Nanafalia.
Foscue, Francis Lewis, mc Jefferson 84, cb Perry 85, Demopolis.
Godbold, Percy Ellis, mc Atlanta P & S 02, cb 02, Faunsdale.
Goodloe, John Russell, mc univ Vanderbilt 93, cb Sumter 94, Demopolis.
Hand, Samuel Patton, mc univ Louisiana 83, cb Sumter 83, Demopolis.
Jones, Green Ervin, mc Atlanta 82, cb —, Jefferson.
Jones, James D., mc Alabama 94, cb 94, Sweet Water.
Kimbrough, William Leonard, mc univ Louisiana 83, cb 93, Linden.
Kimbrough, Tom G., mc Alabama 96, cb Clarke 96, Thomaston.
Lockhart, William Crocheron, mc Alabama 89, cb 89, Dayton.
McArthur, Andrew Patterson, mc Alabama 85, cb Mobile 85, Rembert.
Moseley, Daniel Coleman, mc Alabama 88, cb —, Faunsdale.
Shivers, Offa Lunsford, Jr., mc univ Vanderbilt 01, cb Perry 01, Linden.
Skinner, John S., mc Alabama 97, cb 98, Shiloh.
Stone, Sardine Graham, mc Alabama 87, cb Calhoun 87, Nanafalia.
Thomas, Charles Brooks, mc Atlanta Southern 83, cb 83, Thomaston.

Whitfield, Chas. Boaz, mc P & S New York 71, cb Marengo 78, Demopolis.

Whitfield, George, mc univ Pennsylvania 58, cb 78, Old Spring Hill.

Whitfield, James Bryan, mc univ Pennsylvania 67, cb 82, Demopolis.

Wilson, Isham Griffin, mc univ Louisiana 58, cb Dallas 78, Demopolis.

Total, 20.

Honorary Member.

Poellnitz, Benjamin Bruno, mc univ Louisiana 47, cb 86, Luther's Store.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Brasfield, Charles, mc Birmingham 03, cb 03, Sweet Water.

Gillespie, Robert Clanton, mc Alabama 90, cb Sumter 90, Putnam.

Goodloe, E. C., mc univ Vanderbilt 97, cb —, Demopolis.

Haigler, James Robert, mc Alabama 97, cb Montgomery 97, Dayton.

Malone, J. C., mc Memphis Hospital 01, cb Greene 01, Linden.

Johnson, I. W., mc Alabama 01, cb —, Nicholsville.

Jackson, —, ng (illegal), Clay Hill.

Lee, Earle, mc Alabama 03, cb —, Consul.

McCorkle, Thomas James, mc Alabama 83, cb 83, Siddonsville.

Miller, J. C., mc Alabama 01, (illegal), Myrtlewood.

Nichols, James Eli, mc Alabama 91, cb —, Nicholsville.

Richardson, Roddie, mc univ Tennessee 98, cb Cranshaw 98, Thomaston.

Slade, Henry, mc Alabama 72, cb 87, Magnolia.

Smith, Seth David, mc univ Louisiana 54, cb 78, Demopolis.

Stone, Augustus Bosworth, mc Alabama 86, cb Baldwin 86, Linden.

Wood, John Hackworth, mc Alabama 86, cb 86, Dixon's Mills.

Young, R. L., mc Alabama —, cb —, Putnam.

Total, 17.

Moved into the county—John C. Christopher, from Choctaw county to Nanafalia; R. L. Young, from — to Putnam; R. C. Gillespie, from Coatopa, Sumter county, to Putnam; E. C. Goodloe, from Boligee, Greene county, to Demopolis.

Moved out of the county— —— McMillan, from McKinley to Louisville, Ky.

Examination—Charles W. Brasfield, mc Birmingham 03, certificate granted.

Died—Robert Bell McCants, Demopolis; peritonitis.

MARION COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, A. L. Moorman; Vice-President, J. C. Johnson; Secretary, and Treasurer, J. R. Burlison; Health Officer, J. C. Johnson. Censors—J. C. Johnson, J. R. Burlison, W. J. McCrary, J. Sherman, B. F. Palmer.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Burleson, John Rufus, mc Memphis Hospital 97, cb 97, Hamilton.
Clark, William Felin, ng. cb 88, Hamilton.
Goggans, Kimbro Buck, mc Memphis Hospital 93, cb 93, Hackleberg.
Johnson, John Carroll, mc Louisville 92, cb Fayette 92, Hamilton.
McCrary, William J., mc Memphis 93, cb 93, Guin.
Moorman, Achilles L., mc Kentucky 70, cb 88, Bexar.
Mixon, George Wesley, mc Alabama 04, cb 04, Hamilton.
Palmer, Benjamin F., ng, cb 88, Palmer.
Phillips, Wendell Vestal, mc Alabama 01, cb 02, Bear Creek.
Sherman, John, mc Atlanta 96, cb Marshall 96, Bear Creek.
Total, 10.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Cochran, William Jefferson, ng, cb 88, Pearces Mill.
Ernest, James Franklin, ng. (old law), cb 88, Winfield.
Hill, T. V., mc Memphis 01, cb 01, Winfield.
Holloday, Walter Scott, ng, cb 88, Hamilton.
Palmer, R. R., ng. cb 88, Bexar.
Roden, Vincent G., ng, cb —, Brilliant.
Sowell, W. L., mc —, cb —, Brilliant.
Shelton, William H., mc Memphis Hospital 01, cb 01, Guin.
Williams, E. L., ng, cb 88, Winfield.
Total, 9.

Moved out of the county—John F. Randolph, from Winfield to Walker county; Marvin S. White, from Hamilton to Phil Campbell, Franklin county.

Examination—Marvin Spears White, mc Louisville 00, certificate granted.

Died—James W. Howell, Ola; chronic nephritis.

MARSHALL COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, P. B. Lusk; Vice-President, S. J. Davis; Secretary, M. G. Shipp; Treasurer, M. G. Shipp; Health Officer, W. A. Elrod. Censors—S. M. Elrod, P. B. Lusk, D. A. Morton, W. A. Elrod, M. G. Shipp.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Baker, P. M., mc Atlanta Southern 92, cb Blount 94, Boaz.
Baker, George Washington, mc Atlanta 02, cb 02, Boaz.
Casey, Martin Luther, mc univ Grant 01, cb 01, Hyatt.
Davis, Samuel J., mc Atlanta 82, cb Randolph 82, Albertville.
Elrod, Samuel Martin, mc Vanderbilt 94, cb DeKalb 94, Albertville.
Elrod, William Addison, mc univ of South 01, cb 01, Albertville.
Hall, William Presley, mc Atlanta 86, cb 86, Albertville.
Hudson, Frank Norton, mc Vanderbilt, cb Blount 76, Albertville.
Lusk, Phocian B., mc Bellevue 91, cb 91, Guntersville.
Morton David A., mc Chattanooga 96, cb 96, Boaz.
Parris, Daniel, mc univ Chattanooga 1900, cb 01, McVille.
Shipp, Montgomery Gilbert, mc Vanderbilt 01, cb 01, Albertville.
Stephens, Miles P., mc univ Grant 94, cb Blount 94, Reedbrake.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Boyd, J. W., ng, Boaz.
Dowdy, Lee, ng. illegal, Martling.
Holliday, Walter H., mc —— 01, cb 02, Albertville.
Holliday, A. L., mc —, cb —, Albertville.
Hinds, Montgomery L., mc Vanderbilt 91, cb Cullman 92, Arab.
Hinds, William, mc Alabama —, cb Blount —, Arab.
Jackson, J. M., mc ——— —, cb —, Guntersville.
Jordan, David Carnes, mc Memphis 92, cb 92, Guntersville.
Lowery, John, ng, cb 86, McLarty.
McGahey, Joseph Jefferson, ng, cb 86, Columbus City.
Morgan, William, ng (illegal), Pendergrass.
Noel, William Earl, mc univ Grant 99, cb Jackson 1900, Boaz.
Turk, W. T., mc Atlanta —, cb 01, Reedbrake.

MOBILE COUNTY MEDICAL SOCIETY—Mobile, 1878.

OFFICERS.

President, E. D. Bondurant; Vice-President, P. J. M. Acker; Secretary, J. J. Peterson; Treasurer, J. G. Thomas; Health Officer, P. J. M. Acker. Censors—G. A. Ketchum, V. P. Gaines, C. A. Mohr, C. N. Owen, J. G. Thomas.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES

Acker, Paul Jerome Morris, mc Alabama 92, cb 92, Mobile.
Bancroft, Marion Joseph, mc Alabama 99, cb Mobile 1900, Mobile.
Bondurant, Eugene DuBose, mc univ Virginia 83, cb Hale 83, Mobile.
Campbell, Douglass Gwin, mc Alabama 96, cb 96, Mobile.
Crampton, Anson Lucius, mc Bellevue 65, cb 78, Mobile.
Edelman, Louis, mc Curtis Institute 91, cb Limestone 97, Mobile.
Fonde, George Heustis, mc Alabama 97, cb 97, Mobile.
Frazer, Tucker Henderson, mc Alabama 88, cb Lee 88, Mobile.
Gaines, Marion Toulmin, mc Alabama 90, cb 92, Toulminville.
Gaines, Vivian Pendleton, mc Alabama 72, phys and surg New York 73, cb Choctaw 79, Mobile.
Gavin, George Edward, mc Louisville 96, State Board 95, Mobile.
Gay, Nathaniel Scales, mc Alabama 00, cb 01, Mobile.
Glass, Parker Josiah, mc Alabama 84, cb 85, Mobile.
Goldthwaite, Henry, mc Alabama 96, cb 96, Mobile.
Goode, Rhett, mc Alabama 71, cb 78, Mobile.
Goodman, Duke Williams, mc univ Louisiana 91, cb 92, Mobile.
Henderson, William Thomas, mc Detroit 96, cb 97, Mobile.
Hirshfield, Henry Phillips, mc univ Pennsylvania 78, cb 78, Mobile.
Howard, Percy John, mc Alabama 96, cb 96, Mobile.
Inge, Harry Tutwiler, mc univ New York 83, cb 83, Mobile.
Inge, James Tunstall, mc univ New York 94, cb 94, Mobile.
Inge, Richard, mc univ New York 71, univ Virginia 79, cb Hale 78, Mobile.
Jackson, William Richard, mc Alabama 88, cb 88, Mobile.
Jones, Paul Ray, mc univ Vanderbilt 98, cb Franklin 98, Whistler.
Ketchum, George Augustus, mc univ Pennsylvania 46, cb 78, Mobile.
Killebrew, J. Buckner, mc univ Virginia 96, cb Colbert 97, Mobile.
Maréchal, Edwin Lesley, mc Alabama 70, cb Baldwin 86, Mobile.
Mohr, Charles A., mc Alabama 84, cb 92, Mobile.
Owen, Calvin Norris, mc Alabama 88, cb 88, Mobile.
Pugh, Sidney Stewart, mc univ Louisiana 89, cb Clarke 89, Mobile.
Sanders, William Henry, mc Jefferson 61, cb 78, Mobile.
Searcy, George H., mc Michigan 01, cb Tuscaloosa 01, Mt. Vernon.
Scales, Willis West, mc Alabama 96, cb 96, Mobile.
Sledge, William Henry, mc Alabama 80, cb Sumter 80, Mobile.
Tam, Silas Springer, mc Alabama 94, cb 94, Mobile.
Terrill, Joshua D., mc Ohio 85, cb 92, Mobile.
Thomas, James Grey, mc univ Pennsylvania 56, cb 78, Mobile.
Thomas, James Grey, Jr., mc Alabama 98, cb 99, Mobile.
Ward, William G. Jr., mc Alabama 95, cb 95, Mobile.

White, J. H., U. S. Marine Hospital Surgeon, Mobile.
Woodcock, Burgett, mc Alabama 97, cb Tuscaloosa 97, Citronelle.
Wright, Rufus Ashe, mc univ. of Virginia 96, cb Sumter 90, Mobile.
Total, 42.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Blewitt, Means, mc ——, cb ——, Citronelle.
Campbell, ——, mc — —, cb —, Creola.
Clarke, W. H., mc Alabama 94, cb —, Mobile.
Dickson, T. Aubrey, mc univ Tulane 92, cb Montgomery 92, Mobile.
Duffield, A. M., mc univ Michigan 85, cb —, Citronelle.
Edmunds, Samuel C., mc univ Louisville 56, cb 92, Spring Hill.
Edwards, William, mc Alabama 80, cb 80, Bayou La Batre.
Festorazzi, Angelo, mc Alabama 87, cb —, Mobile.
Hall, Alexander P., mc univ Louisiana 59, cb 78, Mobile.
Harris, Thomas Nathaniel, mc Meharry 99, State Board 99, Mobile.
Harris, Oliver H., mc Alabama 95, cb 96, Mobile.
Hendon, James Jefferson, mc Alabama 86, cb 86, Mobile.
Holman, St. Fooney, mc Memphis 98, cb Marion 98, Mobile.
Izard, George L., mc Tulane 88, cb —, Mobile.
Jeffries, ——, mc col p and s Baltimore 76, cb Perry —, Citronelle.
Johnston, David Elijah, mc Georgia 68, cb 78, Mobile.
Knight, ——, mc — —, cb —, Platian.
Lyon, George G., mc Pulte (Homeopathic) 88, cb —, Mobile.
Mastin, Claudius Henry, Jr., mc univ Pennsylvania 84, cb 84, Mobile.
Mastin, William McDowell, mc univ Pennsylvania 74, cb 84, Mobile.
Michael, Jacob G., mc univ Virginia 60, cb 78, Citronelle.
Myers, Augustus P., mc St. Louis (Homeopathic) 88, cb —, Mobile.
McCrary, D. O., mc Pulte (Hom.), 96, cb —, Mobile.
Oates, William Henry, mc Bellevue 98, cb 00, Mobile.
Roach, Alexander Nicholas Talley, mc univ South 02, cb Perry 01, Mobile.
Roe, Charles K., mc ——, cb —, Spring Hill.
Roe, Lee Wright, mc Alabama 01, cb —, Creola.
Sawyer, Julian E., mc univ Louisville 96, cb Geneva 96, Mobile.
Sherard, Frank Ross, mc univ Pennsylvania 94, cb 94, Mobile.
Spotswood, Dillon, mc Alabama —, cb —, Mobile.
Wall, R. A., mc Tulane —, cb —, ——
Ward, Alfred G., Jr., mc Alabama 94, cb 94, Mobile.
Williams, Henry Rodger (col.), mc Meharry 1900, cb Morgan 1900, Mobile.
Wilkerson, George M. (col.) mc Meharry 97, Mobile.

Moved into the county—Louis Edelman, from Huntsville, Madison county, to Mobile; G. E. Gavin, from Quitman, Miss., to Mobile; W. H. Oates, from Anniston to Mobile; J. H. White, U. S. Marine Hospital service; W. L. Holman, from Ozark, Dale county, to Mobile; B. Woodcock, from Washington county to Citronelle.

Total. 34.

Moved out of the county—W. P. McIntosh, from Mobile to Portland, Me.

Examinations—James Francis Williams, certificate granted; Walter Philip Dickinson, certificate granted; Joseph Warren Dossett, certificate granted.

Died—Goronway Owen, Mobile.

MONROE COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, F. S. Daily; Vice-President, W. J. Mason; Secretary, J. W. Rutherford; Treasurer, R. A. Smith; Health Officer, C. E. Bizzelle. Censors—L. B. Farish, R. A. Smith, D. R. Nettles, D. D. Cole.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bizzelle, Clarence Eugene, mc univ Vanderbilt 93, cb 93, Monroeville.
Busey, John F., mc Alabama 94, cb 94, Jones' Mill.
Burroughs, William Monroe, mc South Carolina 59, cb 77, Pineville.
Bayles, Willard T., mc Atlanta 02, cb 02, Simpkinsville.
Cole, D. D., mc Alabama 98, cb 98, Mt. Pleasant.
Daily, Fielding Straughn, mc Alabama 71, cb 77, Tunnel Springs.
Draughan, Robert I., mc South Carolina 47, cb 77, Perdue Hill.
Farish, Lawrence B., mc Alabama 01, cb 01, Maros.
Gordon, John, mc Ohio 66, cb 77, McNeil.
Hestle, William Monroe, mc Alabama 85, cb 85, Beuna Vista.
Holmes, Sibley, mc Alabama 96, cb Baldwin 96, Richburg.
Harper, George H., mc Atlanta 02, cb Monroe 02, Maniste.
Mason, William Joseph, mc Atlanta 84, cb Wilcox 84, Activity.
McMillan, T. M., mc univ Tulane 91, cb 91, Monroeville.
McMillan, Samuel B., mc Atlanta P & S 02, cb 02, Jones Mill.
Nettles, Daniel R., mc Alabama 01, cb 01, Peterman.
Rutherford, James Wallace, mc Alabama 93, cb 93, Franklin
Russell, James Thomas, mc Georgia Reform 55, cb 77, Monroeville.
Scott, Gladin Gorin, mc univ Louisville 85, cb 85, Mt. Pleasant.
Stallworth, William Allen, mc Alabama 93, cb 93, Beatrice.

Smith, Russell Aubrey, mc Alabama 1900, cb 1900, Monroeville.
Savage, Henry J., mc univ Tulane 02, cb Conecuh 02, Bells Landing.
Total, 22.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Farish, Albert, mc Atlanta P & S 01, cb Wilcox 01, Nadawah.
Gaillard, George Walter, mc univ Louisville 82, cb 83, Perdue Hill.
Total, 2.

MONTGOMERY COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, W. M. Wilkerson; Vice-President, M. B. Kirkpatrick; Secretary, P. S. Mertins; Treasurer, S. Bragg; Health Officer, R. N. Pitts. Censors—G. Andrews, M. L. Wood, J. L. Gaston, W. M. Wilkerson, S. Bragg.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Anderson, John Mordecia, mc univ City New York 91, cb 91, Montgomery.
Andrews, Glenn, mc univ City New York 86, cb 86, Montgomery.
Baker, James Normant, mc univ Virginia 98, cb 1900, Montgomery.
Baldwin, Benjamin James, mc Bellevue 77, cb 83, Montgomery.
Billing, Samuel Aydelotte, mc Bellevue 97, cb 97, Montgomery.
Bragg, Shirley, mc Alabama 75, cb Lowndes 79, Montgomery.
Chapman, Benjamin Sidney, mc univ City New York 92, cb 92, Montgomery.
Dennis, George A., mc Atlanta Southern 93, cb Autauga 93, Montgomery.
Gaston, John Brown, mc univ Pennsylvania 55, cb 78, Montgomery.
Gaston, Joseph Lucius, mc phys and surgs New York 85, cb 88, Montgomery.
Goldthwaite, Robert, mc Bellevue 93, cb 94, Montgomery.
Henry, John Hazzard, mc Philadelphia 51, cb Dallas 79, Montgomery.
Hill, Luther Leonidas, mc univ City New York 81, cb Jefferson 81, Montgomery.
Hill, Robert Somerville, mc univ City New York 91, cb 91, Montgomery.
Hogan, Samuel Mardis, mc univ Louisville 73, cb Bullock 80, Montgomery.
Hudson, William Henry, mc Atlanta 86, cb Chambers 86, Montgomery.
Jackson, Walter Clark, mc univ Pennsylvania 52, cb 78, Montgomery.

Kirkpatrick, Milton Barnes, mc univ Tulane 96, cb Crenshaw 96, Montgomery.

Law, William Lamar, mc univ Tulane 94, cb Dallas 95, Montgomery.

Mason, Joseph Crump, mc Bellevue 81, cb 81, Snowdoun.

McConnico, Frank H,, mc univ Tulane 99, cb Wilcox 99, Montgomery.

McCrummin, Norman Henry, mc univ Vanderbilt 84, cb 85, Ramer.

Mertins, Paul S., mc Harvard 00, cb Conecuh 01, Montgomery.

Michel, Richard Frazer, mc South Carolina 47, cb 78, Montgomery.

Milligan, Rufus Lee. mc univ Nashville 03, cb Cullman 03, Montgomery.

Montgomery, Arthur Hugh, mc Atlanta 98, cb 98, Montgomery.

Pearson, Benjamin Rush, mc Alabama 81, cb 81, Montgomery.

Persons, Henry Stanford, mc univ Virginia 93, cb Lee 94, Montgomery.

Pitts, Robert Newton, mc Atlanta 90, cb Russell 90, Montgomery.

Pollard, Charles Teed, mc univ Tulane 97, cb 97, Montgomery.

Powell, Claudius William, mc Alabama 88, cb 88, Fleta.

Robinson, Louis Dominick, mc univ Tulane 96, cb 96, Montgomery.

Sadler, John Milton, mc univ Louisiana 73, cb Perry 78, Montgomery .

Steiner, Samuel Jackson, mc univ Vanderbilt 79, cb 79, Montgomery.

Stevenson, Forney Caldwell, mc phy and surg New York 93, ch Calhoun 93, Montgomery.

Thigpen, William Gray. mc Tulane 01. cb 01, Montgomery.

Thigpen, Charles Alston, mc univ Tulane 88, cb Butler 88, Montgomery.

Thorington, Thomas Chilton, mc univ Tulane 94, cb 94. Montgomery.

Waller, George Platt, mc univ City New York 92. cb 92, Montgomery.

Watkins, Isaac LaFayette. mc Bellevue 78, cb Bullock 86, Montgomery.

Weeden, Hamilton, mc Alabama ——, cb Barbour —, Montgomery.

Wilkerson. Wooten Moore, mc univ City New York 80, cb Perry 80, Montgomery.

Wilkerson. Charles Walter, mc univ Tulane 98, cb Perry 98, Montgomery.

Wood, Milton LeGrand, mc Bellevue 77, cb 84, Montgomery.

Honorary Member.

Sanders, William Henry, mc Jefferson 61, cb Mobile 78, Montgomery.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Brown, Joseph Mack, mc Alabama 89, cb 89, Sellers.

Buchanan, J. P., mc Alabama 90, cb Butler 90, Montgomery.

Calloway, James Wesley, mc univ Vanderbilt 81, cb 82, Snowdoun.

Centerfit, Samuel Earle, mc univ City New York 98, State Board 99, Montgomery.

Cutts, William Parsons, ng, (old law), cb 78, Chambers.

Davis, Leroy W., mc Georgia 57, cb 78, Morganville.

Duncan, Thomas, mc Alabama 92, cb 92, Mt. Carmel.

Dungee, Alfred Coleman (col.), mc Howard 89, State Board 91, Montgomery.

Gallion, T. T., mc —— —, cb —— —, Montgomery.

Grimes, Erasmus Darwin, mc univ Louisville 66, cb 77, Montgomery.

Harris, Andrew Jackson, mc ——, cb 85, Lapine.

Jackson, Edward Beatty, mc Alabama 85, cb 85, Ramer.

Johnson, Oscar, mc Alabama 96, cb Pike 96, Downing.

Kendrick, William Toulmin, mc Atlanta 76, cb Butler 78, Montgomery.

Kirk, Eben Bell, mc Alabama 85, cb 85, Montgomery.

McDade, James, mc Georgia 72, cb 78, Waugh.

McLean, James, mc univ Louisville 66, cb 78, Hope Hull.

Merriweather, James L., mc ——, cb —, Mathews.

Pearson, Coleman Ferrell, mc Alabama 1900, cb 1900, Montgomery.

Rankin, W. R., mc Atlanta Phs. & Surg. 01, cb Limestone 01, Montgomery.

Rushing, Thomas Elbert, mc Alabama 90, cb 91, Pike Road.

Sankey, George L., mc univ Louisville 77, cb 78, Tharin.

Scott, David H. C. (col.), mc Nashville 96, cb Jefferson 95, Montgomery.

Scott, Jephtha Newton, mc Alabama 87, cb Jefferson 87, Montgomery.

Stone, Henry Llewellen, mc univ Maryland 68, (retired), Montgomery.

Stough, Thomas Jefferson, mc univ Tennessee 93, cb Crenshaw 93, Chisholm.

Townsend, A. F., mc ——, cb —, Pine Level.

Total, 28.

Moved into the county—W. R. Rankin, from Limestone county to Montgomery.

Moved out of the county—Edward Clifton Parker, from Montgomery to Gulfport, Miss.; Conrad E. Cook, from Montgomery to Mountain Creek, Chilton county.

Deaths—Joseph T. Battle, Montgomery; James B. Townsend, Montgomery.

MORGAN COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, A. R. Wilson; Vice-President, E. J. Conyngton; Secretary and Treasurer, D. C. Morton; Health Officer, S. L. Rountree. Censors—E. J. Conyngton, H. C. McRee, W. A. Barcliff, S. L. Rountree, W. L. Dinsmore.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Barclift, Willis Anderson, mc univ Tennessee 78, cb 79, Hartsell.
Binford, Peter, mc New Orleans 61, cb Morgan 79, Somerville.
Brindley, T. B., ng., Somerville.
Conyngton, Enoch James, mc St. Louis 83, cb 87, Decatur
Dinsmore, William Lewis, mc univ Vanderbilt 81, cb Lawrence 82, Decatur.
Lovelady, William H., mc Alabama 96, cb 96, Danville.
McRee, H. C., mc univ Nashville 98, State Board 02, Hartsell.
Morton, Dick Cameron, mc Memphis Hospital 97, cb Lamar 97, Decatur.
Morton, Flint Hodges, mc Memphis Hospital 01, cb Lamar 01, Decatur.
Murray, Michael William, mc univ McGill, Montreal, Canada 90, cb 90, New Decatur.
Pettey, Frank P., mc univ Vanderbilt 92, cb 92, New Decatur.
Penn, Richard, mc univ Nashville 03, cb Winston 03, Basham.
Rountree, Scott Louis, mc Jefferson 58, cb 78, Hartsell.
Sherrill, Richard Byrd, mc Alabama 87, cb 94, Hartsell.
Watson, William Henry, mc univ Louisville 94, cb 03, Decatur.
Wilson, Able Roberts, mc Alabama 85, cb Lawrence 85, Hartsell.
Total, 16.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bracken, H. T., mc —, cb —, Flint.
Emons, Robert, (illegal), Trinity.
Gaston, Paul Cheeves, mc univ Vanderbilt 78, cb Limestone 78, New Decatur.
Gillespie, James Clark, mc univ Vanderbilt 81, cb Madison 81, New Decatur.
Hodgeboom, Charles, Jr., mc Chattannoga 00, cb —, Talucah.
Hodgeboom, Charles, mc Chattanooga 90, cb —, Talucah.
Harris, ——, mc —, cb —, Danville.

Humphrey, R. D., mc Georgia Eclectic 92, cb Cullman 92, Cedar.
Peck, Cicero Fain, mc univ Tennessee 90, cb 90, Somerville.
Price, J. E., mc — cb —, Priceville.
Shelton, John Benjamin, mc St. Louis 92, cb Jackson 96, New Decatur.
Stephens, R. L., ng, cb — 78, New Decatur.
Steers, Willis Wood, (col.) mc univ Michigan 88, cb Montgomery 88, Decatur.
Stringer, William Morton, mc univ Tennessee 93, cb 99, Falkville.
Sullivan, G. R., mc —, cb —, New Decatur.
Turney, Joseph Simpson, mc univ Vanderbilt 82, cb 82, Hartsell.
Watson, B. W., mc Tulane 86, cb Wilcox 84, New Decatur.
Total, 17.

Examined—Charles Hayes, mc Chattanooga 1903. Certificate granted.

Died—J. M. Kitchens, Hartselle.

PERRY COUNTY MEDICAL SOCIETY—Montgomery, 1875.

OFFICERS.

President, S. T. Whitfield; Vice-President, E. Gulley; Secretary, J. B. Hatchette; Treasurer, O. L. Shivers; Health Officer, J. B. Hatchette. Censors—O. L. Shivers, E. B. Thompson, J. B. Hatchette, E. Swann, J. N. McLean.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Barron, William Rowan, mc univ Virginia 61, cb 78, Marion.
Coleman, Samuel L., mc Tulane 99, co Marengo 99, Uniontown.
Downey, William Thomas, mc univ Louisville 70, cb Hale 70, Scotts.
Gulley, Evans, mc Tulane 01, State Board 01, Hamburg.
Hanna, Robert C., mc Louisville 02, cb 02, Marion.
Hatchette, James Benton, mc univ Vanderbilt 90, cb Limestone 90, Marion.
Johnson, Gaius Rowan, mc S of M Kentucky 92, cb 92, Marion.
McLean, James Neal, mc Alabama 99, cb Lowndes 99, Uniontown.
Perry, Samuel, mc South Carolina 54, cb 78, Marion.
Shivers, Offa Lunsford, mc univ Louisiana 73, cb Hale 78, Marion.
Swann, Edward, mc S of M Kentucky 95, cb 95, Sprotts.
Thompson, Elias Benson, mc univ Louisiana 69, cb 78, Marion.
Whitfield, Sidney Thomas, mc univ Tulane 94, cb 94, Uniontown.
Wilkerson, Charles A., mc univ New York 75, cb 78, Marion.
Total, 14.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Collier, Armstead Mayfield, ng, cb 78, Chadwick.
Langhorne, John Miller, mc univ Pennsylvania 48, cb 78, Uniontown.
Pou, James Rufus, mc univ South Carolina 55, cb 78, Uniontown.
Robinson, C. Byron, mc Louisville 92, cb Lowndes 92, Scotts.
Tucker, James Buchanan, mc univ Vanderbilt 78, cb 79, Jericho.
Total, 5.

Examined—A. W. Davis, mc Meharry 03, certificate granted.

PICKENS COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, D. W. Gass; Vice-President, A. A. Kirk; Secretary and Treasurer, R. O. Patton; Health Officer, E. P. Hill. Censors —G. B. Wimberly, D. W. Gass, R. O. Patton, J. L. Davis.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Davis, John Lewis, mc univ Vanderbilt 88, cb 88, Gordo.
Ervin, William Lindsey, mc Memphis Hospital 03, cb 03, Palm.
Gass, D. William, mc Birmingham Med Col 99, cb 99, Pickensville.
Hill, Samuel Henry, mc univ Louisville 70, cb 78, Carrollton.
Hill, Hugh W., mc Alabama 04, cb 04, Carrollton.
Hill, Eddie Picket, mc Alabama 01, cb 01, McShan.
Kirk, Albert Thomas, mc Memphis H 02, cb 02, Raleigh.
Patton, Robert O., mc Birmingham 1900, cb 01, Temple.
Purnell, James Knox, mc —— 88, cb Green 88, Reform.
Price, A. Bascome, mc Alabama 98, cb 99, Gordo.
Upchurch, Harvey Burton, mc Alabama 92, cb 92, Carrollton.
Wimberly, Gilbert Bush, mc Alabama 92, cb 92, Reform.
Total, 12.

Honorary Member.

Clear, Christopher Columbus, mc Alabama 85, cb 85, Gordo.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Agnew, James Alexander, mc Alabama 74, cb 78, Neal's Mill.
Cook, Thomas Hugh G., mc Alabama 86, cb 86, Stone.
Donnoho, John H., mc Memphis H 99, cb —, Durrow.
Duncan, John Francis, mc Alabama 74, cb 78, McShan.
Duncan, Wallace W., mc Birmingham 99, cb Fayette 99, Bethany.
Hancock, Jessie, mc Alabama 78, cb 78, Ethelville.
Harvey, ——, mc — —, cc —, Gordo.
Long, James Barckley, mc univ Louisville 93, cb 95, Pickensville.

Moody, Joseph, mc Alabama 71, cb 78, Aliceville.
Moorehead, Henry Clay, mc Alabama 69, cb 78, Ethelville.
Snoddy, Ephriam A., mc Alabama 97, cb 97, Aliceville.
Wyatt, Rufus Riley, mc univ Nashville 84, cb 89, Memphis.
Total, 12.

Moved into the county— —— Harvey, from Mississippi to Gordo.

Moved out of the county—Arthur A. Kirk, from Gordo to Tuscaloosa county.

Examinations—M. L. Ervin, mc Memphis Hospital 03, certificate granted; T. R. McClellan, mc Memphis Hospital 03, certificate granted.

Died—Thomas E. Murphy, Aliceville; pneumonia.

PIKE COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, W. S. Sanders; Vice-President, J. W. Robertson; Secretary, J. S. Beard; Treasurer, L. R. Boyd; Health Officer, C. W. Hilliard. Censors—J. S. Beard, J. A. McEachern, J. W. Robertson, W. B. Sanders, P. U. Brown.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bean, James Madison, mc Bellevue 79, cb 83, Josie.
Beard, Josephus Simmons, mc univ New York 76, cb 79, Troy.
Beasley, James M., mc Alabama 96, cb 96, Orion.
Boyd, Leroy R., mc Alabama 87, cb —, Troy.
Broach, Francis Marion, mc Atlanta 90, cb 90, Ansley.
Brown, Pugh H., mc univ New York 54, cb 78, Troy.
Brown, Pugh Ulpian, mc Tulane 95, cb 95, Troy.
Dickerson, Robert Charles, mc Memphis 01, cb 01, Brundidge.
Ford, Elchana Gardner, ng. (old law) 56, cb 78, Troy.
Hilliard, Charles W. Sr., mc Georgia Reform 61, cb 78, Troy.
Johnston, John David, mc Atlanta P & S 1900, cb 01, Tarantum.
Loflin, Daniel Thomas, mc Alabama 98, cb Coffee 98, Milo.
McEachern, Conoly Pinkney, mc Alabama 96, cb 96, Banks.
McEachern, John Adolphus, mc Louisville 89, cb 89, Brundidge.
Robertson, James Wiley, mc Atlanta 93, cb 93, Brundidge.
Salter, E. S., mc Georgia Eclectic 92, cb 98, Josie.
Sanders, William B., mc Atlanta Southern 85, cb 85, Troy.
Sanders, William Shelby, mc univ Vanderbilt 92, cb 92, Troy.
Stallings, Homer Sylvanus, mc Atlanta P & S 02, cb 02, Goshen.
Watkins, James Monroe, mc univ Vanderbilt 94, cb 94, Troy.

Watkins, Lucius, mc univ Vanderbilt 98, cb 98, Henderson.
Total, 21.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Albritton, George Allen, mc Louisville 72, cb Crenshaw 82, Henderson.
Crossley, William Andrew, mc South Carolina 54, cb 78, Banks.
Dennis, Irby Watson, mc Louisville 58, cb 78, Ansley.
Hamil, Irby Watson, mc Louisville 76, cb 78, Goshen Hill.
Johnson, Edward Harris, mc univ Washington 69, cb Crenshaw 82, Troy.
Stough, D. B., mc ——— —, cb —, Shady Grove.
Total, 6.

Moved out of the county—L. L. Dismuke, from China Grove to Geneva county; C. W. Hilliard, Jr., from Milo to Dothan, Houston county; G. W. Williams, from — to Geneva county; I. L. Johnston from Roten to —; D. D. Stephens, from Brundidge to Houston county.

Examined—Ira L. Johnston, mc Memphis 03, certificate granted.

RANDOLPH COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, H. B. Disharoon; Vice-President, C. B. Wright; Secretary and Treasurer, W. W. Stevenson; Health Officer, P. G. Trent, Jr. Censors—W. G. Floyd, P. E. Dean, W. W. Stevenson, C. B. Wright, H. B. Disharoon.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Dean, Pierce Elliott, mc Alabama 92, cb 93, Wedowee.
Disharoon, Henry Beauregard, mc phy and surg Baltimore 85, cb 85, Roanoke.
Floyd, William Gibson, mc univ Maryland 78, cb 92, Roanoke.
Hearn, James Luther, mc Atlanta 01, cb Tallapoosa 01, Level Road.
Hood, Joseph Robertson, mc Oglethorpe 57, cb 85, Wedowee.
Hooper, John Wilson, mc Jefferson 84, cb Tallapoosa 84, Roanoke.
Jordan, Charles Alexander, mc Atlanta Southern 84, cb 87, Swann.
Pool, Wyatt Heflin, mc Georgia 67, cb 79, Roanoke.
Stevenson, William Worth, mc Alabama 03, cb 03, Roanoke.
Traylor, George Washington, mc Georgia 91, cb 94, Lamar.
Trent, Powhattan Glover, mc Atlanta 88, cb 88, Roanoke.
Trent, Powhattan Green, mc Jefferson 67, cb 85, Roanoke.
White, Luther Leonidas, ng, cb 79, White.
Wright, Columbus B., mc Atlanta 98, cb 98, Wedowee.

Wood, Frank Richard, mc Chattanooga 02, cb 02, Wehadkee.
Total, 15.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bonner, William Wallace, mc Atlanta Southern 92, cb 94, Rock Mills.
Clardy, Andrew Jackson, mc Chattanooga 1900, (illegal), Almond.
Dowdy, R. M., mc univ Vanderbilt —, cb —, Hightower.
Gauntt, Elbert Tillman, mc Atlanta 76, cb 84, Ophelia.
Heflin, Wilson Lumpkin, mc Georgia 48, cb 85, Roanoke.
Liles, Madison DeKalb, ng, cb 79, Dingler.
Stevens, Reuben Calvin, mc Atlanta Southern 92, cb Cleburne 97, Graham.
Vineyard, James Leonard, mc Georgia Reform 49, cb 79, Rock Mills.
Weathers, William, ng, cb 87, High Shoals.
Total, 9.

Moved into the county—J. L. Hearn, from Tallapoosa county to Level Road.

Examinations—W. W. Stevenson, mc Alabama 03, certificate granted; L. E. Wilson, mc Atlanta Phys. & Surg. 03, certificate granted.

RUSSELL COUNTY MEDICAL SOCIETY—Tuscaloosa, 1877.

OFFICERS.

President, M. Davie; Vice-President, F. H. Johnson; Secretary and Treasurer, W. B. Prather; Health Officer, W. B. Prather. Censors—T. A. Johnson, A. R. Allen, J. P. Norris, T. J. Pruett, W. B. Prather.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Allen, Arthur Redding, mc Atlanta 96, cb 98, Oswichee.
Davie, Meigs, ng, State Board 98, Hatchechubbie.
Echols, Moses Mason, mc Alabama 97, cb Macon 97, Girard.
Jenkins, Eddie Wise, mc Bellevue —, cb 99, Girard.
Johnson, Thomas Abner, mc univ Tennessee 80, cb 83, Jernigan.
Johnson, Frank H., mc Grant 03, cb 04, Jernigan.
Joiner, William Thomas, mc Atlanta 91, cb 91, Pittsboro.
Norris, John Pinckney, mc Atlanta 91, cb 91, Uhland.
Paschal, George Dennis, mc univ New York 72, cb 87, Hurtsboro.
Paschal, John, mc Atlanta 98, cb 98, Hatchechubbie.
Prather, William Butler, mc Atlanta 74, cb 88, Seale.
Pruett, Thaddeus Jefferson, mc Alabama —, State Board —, Hurtsboro.
Total, 12.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Hendrick, Walter Branham, mc univ Louisville 90, cb Pike 90, Hurtsboro.

Hendrick, Frank Gustavus, mc univ Louisville 94, cb Pike 94, Crawford.

Howard, Thomas Watson, ng, cb 88, Girard.

Phillips, Lovic Wynn, mc univ Tulane —, cb —, Columbus, Ga.

Prather, Robert Clark, mc Alabama 98, cb 98, Girard.

Total, 5.

Moved into the county—Thaddeus Jefferson Pruett, from Central America to Hurtsboro.

Moved out of the county—Frank Reid Yarbrough, from Seale to Andalusia, Covington county.

Examined—Frank H. Johnson, mc Chattanooga 03, certificate granted.

SHELBY COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, D. L. Wilkinson; Vice-President, J. C. Walker; Secretary, W. C. Williams; Treasurer, O. E. Black; Health Officer, J. H. Gunn. Censors—J. R. Morgan, W. S. DuBose, E. G. Givhan, D. L. Wilkinson, J. H. Williams.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Acker, Charles T., mc Birmingham 00, cb 00, Columbiana.

Acker, James Wilson, old law, cb Tuscaloosa 78, Montevallo.

Batson, James Lucian, mc Kentucky S of M 1900, cb Fayette 1900, Gurnee.

Black, Orlando E., mc univ South 01, cb Clay 01, Wilsonville.

DuBose, Wilds Scott, mc Atlanta 58, cb 78, Columbiana.

Givhan, Edgar Gilmore, mc Alabama 94, cb Chilton 94, Montevallo.

Gunn. James Hamlin. mc Bellevue 69. cb 78. Calera.

Morgan, Joseph Reid, mc univ Louisville 66, cb 78, Shelby Springs.

Oliver, Christopher Carlton, mc Atlanta 69, cb 78, Calera.

Smothers, Blannerhassett H., mc Alabama 85, cb Lamar 85, Redlawn.

Walker, Joseph Cobb, mc univ Nashville 1900, cb Blount 1900, Maylene.

Wilkinson, David Leonidas, mc univ Tulane 94, cb Autauga 94, Montevallo.

Williams, Hartwell Isaac, mc Alabama 87, cb 87, Columbiana.

Williams, John Harford, mc univ Louisville 75, cb 78, Columbiana.

Williams, William Claiborne, mc Alabama 1900, cb Mobile 1900, Shelby.

Total, 15.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Boyer, Joseph Buford, mc Kentucky S of M 92, cb 92, Wilsonville.
Chandler, Edward Pendleton, (old law), cb 79, Vincent.
Cross, S. M., mc —— —, cb —— —, Cresswell Station.
Denson, Eli Forest, mc univ Vanderbilt 79, cb 79, Pelham.
DuBose, Frank Dudley, mc South Carolina —, cb 78, Shelby.
Embrey, James Carl, mc univ Georgia 89, cb 90, Vincent.
Fields, James G., (old law), cb 78, Wilsonville.
Floyd. Milton Tucker, mc Bessemer 97, cb Lee 97, Helena.
Griffin, Alphens J., (old law), cb 78, Vandiver.
Hays, William S., mc Alabama 87, cb 87, Helena.
Horton, Andrew Wailes, mc Alabama 99, cb Shelby 01, Weldon.
Kidd, W. H., mc —— —, cb —, Vincent.
Lane, H. B., mc —— —, cb —, Harpersville.

Total, 13.

Moved into the county—Charles T. Acker, from Kymulga, Talladega county, to Columbiana.

Moved out of the county—J. M. B. Johnson, from Quito to Jemison, Chilton county; J. P. Ellsberry, from Helena to Chilton county.

Deaths—K. F. Lane, Montevallo; pneumonia. David W. Edwards, Wilsonville.

ST. CLAIR COUNTY MEDICAL SOCIETY—Eufaula, 1878.

OFFICERS.

President, J. T. Brown; Vice-President, W. A. Beason; Secretary and Treasurer, E. A. Harris; Health Officer, J. M. McLaughlin. Censors—J. T. Brown, J. H. Martin, R. L. McClellan, W. A. Beason, F. E. Davis.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bass John Burrell, mc phy and surg Baltimore 70, cb 78, Ashville.
Beason, William A., mc phy and surg Baltimore 93, cb 93, Ashville.
Brown, Jackson Tucker, mc Birmingham 97, cb 98, Riverside.
Burns. R. A.. mc Vanderbilt 01, cb Etowah 01, Coal City.
Davis, Fred E.. mc Birmingham 99, cb Shelby 99, Springville.
Gray, JesseAlonzo, mc —— —, cb —, Eden.
Harris, Esau A., mc univ of the South 99, cb 99, Coal City.

Hawkins, James Pinkney, mc Chattanooga 94, cb 99, Clear Springs.
Laney, Marcus W., mc univ Vanderbilt 94, cb 1900, Eden.
Martin, R. A., mc univ Vanderbilt —, cb —, Pell City.
Martin, John Howard, mc Alabama 99, cb Blount 99, Springville.
McLaughlin, James Madison, mc ——— —, State Board 80, Springville.
McClellan, Robert Lee, mc Alabama 97, cb 97, Easonville.
Turner, James Perry, mc Birmingham 1900, cb 1900, Cropwell.
Vandergrift, Washington Frank, mc univ Tulane 80, cb 80, Branchville.
Wheeler, Thomas Tyler, mc Chattanooga 1900, cb Cleburne 1900, Steel's Depot.
Total, 15.

Honorary Members.

Crump, James Wells, mc Atlanta 75, cb St. Clair 78, Steels Depot.
Cason, James Calvin, mc Memphis 85, cb 85, Coal City.
Jones, James Henry, mc —— —, cb Calhoun 78, Ragland.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Hamilton, Charles Henry, ng, cb Calhoun 79, Pell City.

Moved out of the county—J. M. Spinks, from Ragland to Rockwart, Ga.

Moved into the county—R. A. Burns, from Gadsden to Coal City.
R. A. Martin, from —— to Pell City.

SUMTER COUNTY MEDICAL SOCIETY—Moolle, 1876

OFFICERS.

President, M. B. Cameron; Vice-President, J. D. Bancroft; Secretary and Treasurer, D. S. Brockway; Health Officer, D. S. Brockway. Censors—D. S. Brockway, M. B. Cameron, W. J. McCain, A. L. Vaughan, R. E. Howard.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bancroft, Joseph Dosier, mc univ Vanderbilt 94, cb 94, Livingston.
Brockway, Dudley Samuel, mc Jefferson 81, cb 81, Livingston.
Cameron, Mathew Bunyan, mc Alabama 86, cb 86, Sumterville.
Cook, Steven R., mc Alabama 90, cb 90, Epps.
Gilmore, John Neil, mc New York —, cb 78, Gaston.
Harwood, Robert Ellyson, mc Alabama 1900, cb 1900, Gainesville.
Hale, Robert Hadden, mc univ Louisville 79, cb 80, York.
James, Ashley Darlin, mc Alabama 01, cb 01, York.
McCain, William Jasper, mc Alabama 91, cb 91, Livingston.
McElroy, J. M., mc Alabama 01, cb 02, Cuba.

McLelland, T. R., mc Alabama 02, cb 02, Gainesville.
Reed, J. H. G., mc univ Nashville 90, cb Pickens 90, Epps.
Scales, John Patton, mc univ Louisville 97, cb 98, Brewersville.
Shamberger, William Brantley, mc univ Louisville 84, cb Choctaw 85, Cuba.
Stallsworth, F. B., mc Alabama 99, cb 99, Cuba.
Swain, Simeon Sebastian, mc Alabama 01, cb 01, Ramsey.
Vaughan, Amos Lemuel, mc univ Louisville 84, cb 84, Cuba.
Total, 17.

Honorary Members.

James, William Hamilton, mc —, cb 78, York.
Sholl, Edward Henry, mc Pennsylvania 56, cb 78, Birmingham.
Ward, Henry Bascom, mc Alabama 78, cb 78, Cuba.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Harris, Evan P., mc univ Louisville 69, cb 78, Rosser.
Hearn, William Thomas, mc univ Louisville 82, cb 82, York.
Jones, Joseph F., mc Atlanta Phys. & Surg. 01, cb 01, Almuchee.
Knighton, J. T., mc Alabama 90, cb 90, Bellamy.
Shaw, Robert W., mc Alabama, 1900, Washington 1900, Sumter.
Total, 5.

Moved into the county—T. R. McLelland, from — to Gainesville.

Moved out of the county—Robert C. Gillespie, from Coatopa to Marengo county; Charles Albert Zeigler, from Warsaw to Hattesburg, Miss.

Died—John C. Parham, Gainesville; Bright's disease.

TALLADEGA COUNTY MEDICAL SOCIETY—Anniston, 1886.

OFFICERS.

President, W. G. Harrison; Vice-President, F. H. Craddock; Secretary, W. R. Bishop; Treasurer, E. P. Casson; Health Officer, S. W. Welch. Censors—J. F. Harrison, B. B. Sims, A. G. Sims, G. A. Hill, H. T. Caffey.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bishop, Wallace Reverdy, mc Tulae 95, State Board 95, Talladega.
Caffey, Hugh T., mc Nashville 83, cb Lowndes 83, Sycamore.
Cason, Eugene P., mc Alabama 90, cb St. Clair 90, Talladega.
Craddock, Felix Hood, mc univ Vanderbilt 95, cb 95, Sylacauga.
Hargrove, Robert Harris, mc Vanderbilt 81, and Bellevue 86, cb Jefferson 78, Munford.
Harrison, John Tinsely, mc Atlanta 81, cb 86, Talladega.

Harrison, William Groce, mc univ Maryland 92 cb 92, Talladega.
Heacock, John William, mc univ Louisiana 66, cb 86, Talladega.
Hill, George Armstrong, mc Jefferson 70, cb 86, Wynette.
Hutchinson, W. H., mc Chattanooga 93, cb St. Clair 97, Childersburg.
Kent, T. J., mc Alabama 97, cb Coosa 97, Fayetteville.
Northen, Charles S., mc Atlanta 91, cb Clay 91, Talladega.
Powell, Thomas Jefferson, mc univ Maryland 66, cb 86, Childersburg.
Pugh, Braxton Bragg, mc Alabama 89, cb Clarke 89, Ironaton.
Prescott, William Earnest, mc Birmingham 1900, cb Chilton 1900. Alpine.
Sims, Benjamin Brit, mc Jefferson 85, cb Coosa 86, Talladega.
Sims, Albert Gallatin, mc univ Nashville 69, cb 86, Renfro.
Welch, Samuel Wallace, mc phy and surg Baltimore 93, cb 93, Talladega.
Warwick, Bishop B., mc Tulane 02, cb 03, Talladega.
Total, 19.

Honorary Members.

Castleman, H. L., mc univ of South 01, cb Coosa 01, ——.
Grimes, John W., mc univ of South 99, cb Coosa 99, Talladega Springs.
Harris, D. B., mc Atlanta 99, cb 99, Munford.
Stockdale, John Lark, mc South Carolina, 54, cb 86, Vindale.
Taylor, William, mc Louisiana 52, cb 86, Tallageda.
Total, 5.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Bailey, Robert Emmett, mc Atlanta 66, cb 86, Silver Run.
Barker, M. L., mc Alabama 96, cb —, Eastaboga.
Brooks, Alpheus Olin, mc Atlanta Southern 87, cb Clay 87, Lincoln.
Colvin, James Pickett, mc Kentucky S of M 91, cb Macon 91, Lincoln.
Castleberry, William T., mc — —, cb —, Lincoln.
Conway, Magnus Eli, mc univ Vanderbilt 88, cb 88, Sylacauga.
Harris, Daniel B., mc — —, cb 02, Munford.
Mullen, Thomas Knox, mc Atlanta Southern 98, cb Pike 98, Talladega.
McCants, John Samuel, mc Atlanta 66, cb 86, Talladega.
Pearson, James Emmett, mc Alabama 88, diploma recorded, Sylacauga.
Pruett, M. T., mc — —, cb —, Chandler Springs.
Sorrel, William Henry, ng cb 82, Sylacauga.
Whitten, Edgar Hinton, mc Alabama 88, cb 89, Munford.

Wrenn, Edward Bailey, mc Alabama 90, cb 90, Talladega.

Total, 14.

Moved into the county—D. B. Harris, from — to Munford.

Moved out of the county—Charles T. Acker, from Kymulga to Shelby county.

Examined—Bishop W. Warwick, mc Tulane 02, certificate granted

Deaths—John H. Vandiver, Talladega; Humphrey G. Hendricks, Talladega.

TALLAPOOSA COUNTY MEDICAL SOCIETY—Selma, 1879.

OFFICERS.

President, S. H. Newman; Vice-President, H. T. Hamner; Secretary, A. L. Harlan; Treasurer, W. T. Langley; Health Officer, A. L. Harlan. Censors—A. J. Coley, J. W. McClendon, J. A. Goggans, A. L. Harlan, H. T. Hamner.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Carleton, William George, mc univ Vanderbilt 82, cb 82, Dudleyville.
Coley, Andrew Jackson, mc Jefferson 80, cb 82, Alexander City.
Goggans, James Adrian, mc univ New York 77, cb 82, Alexander City.
Griffin, James Olin, mc Alabama 1900, cb Clay 1900, Hackneyville.
Hamner, Harper Talliaferro, mc univ Vanderbilt 89, cb Chambers 90, Camp Hill.
Harlan, Aaron LaFayette, mc Alabama 86, cb 86, Alexander City.
Harlan, John James, mc Alabama 72, cb 82, Dadeville.
Hart, Eugene Walker, mc Baltimore 91, cb 91, Walnut Hill.
Hanson, W. C., mc Atlanta 89, cb 89, Roxana.
Langley, O. V., mc Baltimore 93, cb 93, Camp Hill.
Langley, W. T., mc Alabama 99, cb 99, Camp Hill
McClendon, Joseph Wyley, mc Jefferson 68, cb 88, Dadeville.
Motley, J. P. mc univ Atlanta Southern 86, cb 86, Motley.
Motley, Samuel D., mc univ Kentucky 03, cb 03, Hackneyville.
Newman, S. H., mc Memphis 98, cb Chambers 98, Dadeville.
Nolen, Abner Jackson, mc Louisville 80, cb Coosa 82, New Site
Nolen, Isaac Daniel, mc univ Louisville 92, cb Coosa 92, New Site.
Radford, George Clements, ng cb Clay 87, Alexander City.
Reagan, Onslow, ng, cb 82, Alexander City.
Salmon, Robert Vaughn, mc Alabama 75, cb 82, Dadeville
Shepard, Orlando Tyler, mc Graffenburg, 54, cb 82, Dadeville.
Shepard, William, mc Atlanta 1900, cb —, Tohopeka.
Smith, Watt Francis, mc Graffenburg 54, cb 82, Thaddeus

Street, Thos. Hezekiah, mc Jefferson 1900, cb 1901, Alexander City.
Vines, George Washington, mc univ Tulane 72, cb 82, Dadeville.
Ward, Lucius Cincinnatus, ng, cb 82, Daviston.
Total, 26.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Banks, Joseph W., mc Alabama 90, cb —, Jackson's Gap.
Spier, Alfred Alexander, ng, cb 80, Dudleyville.
Thomason, W. D., mc —— —, cb —, East Tallassee.
Wallace, J. M., mc univ Vanderbilt 1900, cb —, East Tallassee.
Warren, Wm. H., mc Alabama 85, cb Elmore 85, East Tallassee.
Total, 5.

Moved into the county—O. V. Langley, from Florala, Covington county, to Camp Hill.

Moved out of the county—Homer S. Bruce, from Camp Hill to Opelika; A. O. Tucker, from Alexander City, R. F. D. No. 1, to Louisiana; B. B. Thompson, (col.) from Alexander City to Opelika.

Examinations—William M. Stewart, mc Georgia Eclectic 02, certificate refused; Blanche B. Thompson, mc Meharry 01, certificate granted; Samuel D. Motley, mc univ Kentucky 03, certificate granted.

Died—Robert W. Lightfoot, Alexander City.

TUSCALOOSA COUNTY MEDICAL SOCIETY—Birmingham, 1877.

OFFICERS.

President, S. Leach; Vice-President, J. Trimm; Secretary and Treasurer, W. M. Faulk; Health Officer, W. M. Faulk. Censors—J. L. Fant, T. M. Leatherwood, S. Leach, R. J. Hargrove, W. M. Faulk.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bell, Charles Patton, mc univ Nashville 03, cb 03, Coker.
Carr, Paul Eason, mc Atlanta 84, cb Butler 84, Tuscaloosa.
Cleere, James Ezru, mc Birmingham 03, cb 03, Tidewater.
Fant, Joseph Louis, mc South Carolina 76, cb Marengo 78, Tuscaloosa.
Faulk, William Mark, mc Alabama 97, cb Barbour 97, Tuscaloosa.
Fitts, Alston, mc Phys and Surg New York 95, cb 1900, Tuscaloosa.
Glasgow, Marvin Whitfield, mc univ Vanderbilt 01, cb Shelby 01, Brookwood.
Hargrove, Robert Jemison, mc Alabama 01, cb 01, Tuscaloosa.
Hausman, Frank, mc Alabama 93, cb 93, Cottondale.

Hitchcock, Matthew Sims, mc univ Louisville 93, cb Dallas 93, Brookwood.

Killian, Artemus Daniel, mc univ of the South 01, cb DeKalb 01, Holt.

Kirk, Arthur Albertus, mc Alabama 97, cb Pickens 97, Northport.

Leach, Sydney, mc univ Virginia 96, cb 97, Tuscaloosa.

Leatherwood, Timothy Miles, mc Alabama 91, cb 91, Tuscaloosa.

Little, John, mc univ Louisiana 69, cb 78, Tuscaloosa.

Mayfield, Surry Foster, mc univ Tulane 96, cb 96, Northport.

McCafferty, Emit Luther, mc Phys. & Surg. Atlanta 02, cb Pickens 02, Tuscaloosa.

Milner, George Marvin, mc Birmingham 00, cb Lamar 00, Goethite.

Nichols, Andrew Berry Cook, mc univ Philadelphia 69, cb 78, Tuscaloosa.

Partlow, William Dempsey, mc Alabama 01, cb St. Clair 01, ——

Patton, Madison Knox, mc Tulane 91, cb Greene 91, Fosters.

Rudolph, Charles Murray, mc Alabama 1900, cb Lowndes 1900, Tuscaloosa.

Searcy, James Thomas, mc univ New York 67, cb 78, Tuscaloosa.

Sellers, Edward M., mc Alabama 97, cb Bibb 97, Searles.

Somerville, William Glassell, mc phys and surg New York 89, cb 89, Tuscaloosa.

Spratt, Robert Davy, mc univ Tulane 02, cb Sumter 02, Tuscaloosa.

Trimm, James Lewis, mc Alabama 81, cb 81, Northport.

Williamson, James Lewis, mc Alabama 81, cb 81, Tuscaloosa.

Total, 28.

Honorary Member.

Neilson, Robert, mc univ Georgia 51, cb 78, Tuscaloosa.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Blanton, Robert, mc — —, cb —, Oregonia.

Caldwell, Washington Jackson, ng, cb 84, Hull.

Cannon, Daniel Pugh, mc univ Vanderbilt —, cb Bibb 95, Coaling.

Coggin, W. T., mc — —, cb —, Green Pond.

Cooper, J. B., mc — —, cb —, Fox.

Doughty, W. B., mc — —, cb —, New Lexington.

Gibson, Walter, ng, Wiley.

Hughes, Joel, ng, Elbert.

Merriam, George C., mc — —, cb —, Cedar Cove.

Mills, Joel, mc —, cb —, Elrod.

Patton, Hampton, mc univ Maryland —, cb —, Cokers.

Perry, S. Miller, mc — —, cb 94, Tuscaloosa.

Russey, J. W., mc — —, cb —, Tidewater.

Sellers, William D., mc Phys. & Surg. Atlanta 02, cb —, Kellerman.
Smothers, Wm. Jonas, mc Alabama —, cb —, Moore's Bridge.
Taylor, William Thomas, mc Alabama 93, cb Greene 93, Hickman.
Toomey, Mark Anthony, ng, cb 78, Hagler.
Weaver, George Augustus, (col.) mc univ Howard 97, cb 98, Tuscaloosa.
Total, 18.

Moved into the county—W. T. Coggin, from Etowah county to Green Pond; George C. Merriam, from Bullock county to Cedar Cove; George M. Milner, from — to Goethite; S. M. Perry, from — to Tuscaloosa; A. A. Kirk, from Pickens county to Northport.

Moved out of the county—J. E. Cleere, to Springville, St. Clair county; G. W. Olive, from New Lexington to Fayette county.

Examinations—Charles Patton Bell, mc univ Nashville 03, certificate granted; Henry Pearson, mc univ Cornell 03, certificate granted; James Ezra Cleere, mc Birmingham 03, certificate granted.

WALKER COUNTY MEDICAL SOCIETY—Mobile, 1876.

OFFICERS.

President, J. A. Goodwin; Vice-President, G. S. Guilder; Secretary and Treasurer, T. Manasco; Health Officer, A. M. Stovall. Censors—J. A. Goodwin, A. M. Stovall, C. B. Jackson, J. M. Miller, D. M. Davis.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Ballenger, Joseph William, mc univ Vanderbilt 84, cb Cullman 87. Carbon Hill.
Camak, David Hubbard, old law 71, cb 84, Jasper.
Carpenter, N. H., mc Tulane 98, cb Greene 98, Jasper.
Crow, P. P., mc Nashville 77, cb St. Clair 78, Horse Creek.
Chilton, David H., mc Atlanta 92, cb 92, Corona.
Cunningham, William M., mc univ Vanderbilt 85, cb —, Corona.
Davis, Daniel M., mc Atlanta 94, cb 94, Cordova.
Deweese, Thomas Peters ,mc univ Vanderbilt 85, cb 85, Gamble Mines.
Fore, Rufus Baker, mc Birmingham 92, cb St. Clair, Horse Creek.
Goodwin, Joseph Anderson, mc Alabama 74, cb 78, Jasper.
Gravlee, William Lewis, mc univ Nashville 82, cb 82, Patton Junction.
Guilder, George S., mc Alabama 94, cb 94, Galloway.
Hendon, Albert Lucretius, old law 78, cb 78, Townley.

Jackson, Charles Beuford, mc Atlanta 85, cb Tallapoosa 85, Horse Creek.

Logan, W. A., mc univ Vanderbilt 00, cb Jefferson 00, Chickasaw.

Manasco, John, old law 76, cb 81, Townley.

Manasco, Titus, mc Memphis Hospital 96, cb 96, Townley

Miller, John M., mc univ Vanderbilt 85, Cordova.

Odum, James Newton, mc Memphis Hospital 94, cb 94, America.

Rosamond, William Cooper, old law, 55, cb 81, Jasper.

Randolph, John F., mc Memphis Hospital 98, cb Fayette 98, Carbon Hill.

Sowell, W. S., mc Alabama 99, cb Tuscaloosa 99, Empire.

Stovall, Andrew McAdams, mc Louisville 80, cb 81, Jasper.

Whitfield, Bryan Watkins, mc univ Pennsylvania 53, cb Marengo 79, Nauvoo.

Woodson, John A., mc univ Vanderbilt 92, cb 93, Coal Valley.

Woodson, Landon Aubry, univ Virginia 61, cb 91, Patton.

Total, 26.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Gallagher, Larkin, mc Alabama 95, cb 95, Eldridge.

Garganus, William, mc Chattanooga 94, cb —, Oakman.

Lynn, John Wesley, mc Atlanta 60, cb 81, Pocahontas.

Phillips, Alfred B., univ Vanderbilt 85, cb 85, Horse Creek.

Sankey, Howard, mc Alabama 01, cb 01, Nauvoo.

Stephenson, Hugh Watson, mc Alabama 80, cb Lawrence 88, Oakman.

Tait, Porter King, mc Birmingham 03, cb Wilcox 03, Horse Creek.

Whitney, O. H., mc Louisville 90, cb Fayette 90, Carbon Hill.

Wood, R. W., mc Louisville 81, cb Fayette 81, Jasper.

Total, 9.

Moved into the county—John F. Randolph, from Winfield, Marion county, to Carbon Hill; Howard Sankey, from Bladon Springs, Choctaw county, to Nauvoo; Porter King Tait, from Wilcox county to Horse Creek.

Moved out of the county—Tillman Stone, from Pocahontas to Jefferson county; Edgar Rush Burns, from Nauvoo to Lamar county; James A. Fleming, from Horse Creek to Geneva county.

Examinations—Mordecai E. Doughty, mc univ Grant 03, certificate granted; Oscar Hayes, mc Tulane 03, certificate granted.

WASHINGTON COUNTY MEDICAL SOCIETY—Tuscaloosa, 1887.

OFFICERS.

President, J. W. Wood; Vice-President, F. A. Webb; Secretary and Treasurer, L. L. Duggar; Health Officer, W. E. Kimbrough. Censors—J. W. Wood, A. J. Wood, W. E. Kimbrough, F. A. Webb, L. L. Duggar.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Crelly, Harry C., mc Alabama 02, cb 02, Vinegar Bend.
Duggar, Llewellyn Ludwig, mc Alabama 98, cb Mobile 99, Fairford.
Kimbrough, William E., mc univ Alabama —, cb Wilcox 87, St. Stephens.
Palmer, Ransom D., mc Tulane 86, cb Wilcox 86, Leroy.
Webb, Francis Asbury, mc Alabama 81, cb 91, Calvert.
Williams, Joseph F., mc Alabama 02, cb Mobile 03, Yellow Pine.
Wood, Andrew Jackson, mc Alabama 01, cb 01, Frankville.
Wood, John Wesley, mc univ Virginia 60, cb 87, Healing Springs.
Total, 8.

Moved into the county—Joseph T. Williams, from Citronelle, Mobile county, to Yellow Pine.

Moved out of the county—Burgett Woodcock, from Vinegar Bend to Citronelle, Mobile County.

WILCOX COUNTY MEDICAL SOCIETY—Eufaula, 1887.

OFFICERS.

President, J. C. Benson; Vice-President, J. H. Jones; Secretary and Treasurer, W. W. Moore; Health Officer, R. O. Semmes. Censors—L. E. Starr, J. H. Jones, E. Bonner, R. H. Kilpatrick, R. O. Semmes.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Adams, David, mc Georgia 68, cb 81, Pine Apple.
Benson, James C., mc Alabama 87, cb 87, Camden.
Bonner, Ernest, mc Bellevue 97, cb 04, Camden.
Burroughs, William M., mc univ Tennessee 91, cb Clarke 92, Pine Hill.
Cox, J. W., mc Alabama 95, cb 95, Furman.
Curtis, Alonzo Bittle, mc Alabama 78, cb 82, Lower Peach Tree.
Curtis, Christopher Columbus, mc Alabama 82, cb 82, Lower Peach Tree.
Dale, William Bonner, mc univ Louisiana 61, cb 79 Rowell.
Gaston, David Finis, mc univ Louisiana 62, cb 82, Gastonburg.
Godbold, John Calhoun, mc Alabama ng, cb 79, Nellie.

Haddox, William Thomas, mc univ Louisiana 58, cb 79, Pine Hill.
Jones, Joseph Harvey, mc univ Louisville 80, cb 82, Oak Hill.
Kilpatrick, Rufus Hall, mc Alabama 88, cb 88, Camden.
Kimbrough, Franklin Flavius, mc Memphis 90, cb 90, Arlington.
Moore, William W., mc univ Vanderbilt 96, cb 96, Camden.
McWilliams, E. C., mc Bellevue 98, cb 98, McWilliams.
Ramsey, David Wardlaw, mc univ Louisiana 70, cb 78, Pine Apple.
Semmes, Raphael O., mc Alabama 01, cb 01, Camden.
Starr, Lucius Ernest, mc Alabama 61, cb Bibb 68, Camden.
Stilphen, Henry N., mc Tulane 01, cb 04, Camden.
Spier, Phillip Van Buren, mc Alabama 1900, cb 1900, Furman.
Turberville, J. S., mc Alabama 02, cb 02, Snow Hill.

Total, 22.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Curtis, James M., mc Alabama —, cb —, ——
Gibson, A. M., mc Alabama 88, cb —, ——
King, Edward Doak, mc ——— —, cb 84, Lower Peach Tree.
Lee, John Francis, mc univ Nashville 80, cb 83, Allenton.
McIntosh, E. L., mc Atlanta 02, cb 02, Prairie.
Meyer, K. A., mc Memphis 00, cb 00, Lower Peach Tree.
Moore, Zadoc, mc Memphis 95, cb —, Lamison.
Roach, T. S., mc — —, cb —, Rehoboth.
Roberts, W. P., mc Memphis 04, cb —, McWilliams.
Wilkinson, W. G., mc — 02, cb 02, Catherine.

Total, 10.

Moved into the county—E. Bonner, from Texas to Camden; H. N. Stilphen, from Mississippi to Camden; William W. Moore, from Tennessee to Camden; W. G. Wilkinson, from Pell City to Catherine.

Moved out of the county—T. W. Jones, from Camden to ——; J. H. Jones, from Oak Hill to ——; W. B. Jones, from —— to——; J. H. Kimbrough, from Catherine to ——

Examinations—H. N. Stilphin, mc Tulane 91, certificate granted; E. Bonner, mc Bellevue 97, certificate granted; P. K. Tait, mc Birmingham 03, certificate granted.

Deaths—W. T. Purnell, Prairie Bluff; J. P. Jones, Camden.

WINSTON COUNTY MEDICAL SOCIETY—Montgomery, 1888.

OFFICERS.

President, W. E. Howell; Vice-President, J. D. Lee; Secretary and Treasurer, J. A. McCullar; Health Officer, W. R. Bonds. Censors—J. C. Taylor, J. A. McCullar, W. E. Howell, W. R. Bonds.

NAMES OF MEMBERS WITH THEIR COLLEGES AND POST-OFFICES.

Bonds, William Reiley, mc Alabama 92, cb —, Double Springs.
Collins, William Oscar, mc Chattanooga 02, cb 02, ——
Dennis, D. R., ng, Addison.
Ezell, E. F., mc ——— —, cb —, Lynn.
Howell, William Edward, mc Birmingham 1900, cb 1900, Haleyville.
Johnson, Harvey Caloway, old law, 85, cb 85, Nauvoo.
Lee, J. D., mc Memphis Hospital 1900, cb Franklin 01, Lynn.
McCullar, James Alexander, mc univ·Vanderbilt 99, cb 99, Double Springs.
Palmer, Alexander S., ng, cb Marion 89, Haleyville.
Taylor, Joseph Calhoun, mc Alabama 88, cb 89, Haleyville.
Watts, George Wesley, mc Atlanta Southern 88, cb 89, Irley.
Welborn, Thomas P., old law, cb —, Double Springs.

PHYSICIANS NOT MEMBERS OF THE SOCIETY.

Adkins, William Riley, old law, cb Tuscaloosa 78, Double Springs.
Roden, Benjamin Wesley, old law, cb Marion 89, Haleyville.

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